ExtremeZ-IP™

User's Manual

GroupLogic®

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This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit (http://www.openssl.org/).

This product includes cryptographic software written by Eric Young (eay@cryptsoft.com).

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Contents

Getting Started with ExtremeZ-IP 7
System requirements 7
Windows system requirements 8
About This Document 8
Help 9
Installing ExtremeZ-IP 11
The Installation Procedure 11
Installing the ExtremeZ-IP components you need 12
Installing over a previous installation 12
Installing the ExtremeZ-IP program 12
Configuring your first shared volume 16
Removing ExtremeZ-IP 18
Installing AppleTalk 19
Setting up Kerberos Authentication 19
About Kerberos 19
Single Sign-On Support 19
ExtremeZ-IP Kerberos Support 20
Setting up ExtremeZ-IP to use Kerberos 20
Setting up Clustering 21
Firewall Considerations on Windows XP and 2003 22
ExtremeZ-IP File Server 27
Starting the ExtremeZ-IP File Server 27
Stopping ExtremeZ-IP 27
Configuring the ExtremeZ-IP Server 27
Setting Up the ExtremeZ-IP File Server 27
Remote administration of ExtremeZ-IP 29
Using the ExtremeZ-IP File Server 29
Settings 30
Scheduling Re-Indexing with EZIPutil 36

Volumes . . . 37
Modifying a volume . . . 40
Properties of shared files and folders . . . 41
Users . . . 42
Macintosh Users . . . 43
Files . . . 44
Log . . . 45
Remapping Extensions . . . 46
Troubleshooting . . . 48
The ExtremeZ-IP service or the Service for Macintosh is failing . . . 48
The Server name does not appear in the Macintosh Chooser . . . 48
Running ExtremeZ-IP and SFM . . . 48
Using the Registry Keys . . . 49
Setting the log file size . . . 49
Added support for Macintosh style permissions . . . 49
Show or Hide folders from view . . . 50
Configuring guest access for Windows XP and 2003 . . . 50
ExtremeZ-IP Print Server . . . 53
Using ExtremeZ-IP Print Server . . . 54
Installing the extremez-IP Print server . . . 54
The Print Server directory . . . 55
Setting Up The ExtremeZ-IP Print Server . . . 55
Network Settings . . . 55
Print Server Settings . . . 55
Setting up Print Queues . . . 57
Printing for Macintosh clients . . . 63
Controlling the Processing of Jobs . . . 66
Setting up Bonjour printers . . . 67
Setting up Macintosh client printers using Bonjour . . . 67
Setting up Windows client printers using Bonjour . . . 69
To disable Bonjour printer use . . . 71
Print Log . . . 71
Print Accounting Add-On . . . 73
Setting up print accounting . . . 73
Creating a list of codes for customers . . . 74
Setting up a print queue to provide print accounting information . . . 74
Appendix: Legal Notices . . . 81
Index . . . 89

ExtremeZ-IP™

SETTING UP

Getting Started with ExtremeZ-IP

The ExtremeZ-IP™ family of applications enables Windows® computers to provide AppleShare® IP file sharing and IP-printing, TCP/IP and AppleTalk print services to Macintosh® computers. ExtremeZ-IP is optimized to provide the fastest file and print services available. The ExtremeZ-IP family of products includes the following applications.

- ExtremeZ-IP File Server
- ExtremeZ-IP Print Server
- ExtremeZ-IP Print Accounting Add-on

With ExtremeZ-IP, Macintosh users can connect to and mount directories on a Windows file server just as if they also were native AppleShare volumes. With the optional ExtremeZ-IP Print Server installed, Macintosh users can create desktop printers which deliver print jobs to printers via the server automatically and just as easily as with AppleTalk®. ExtremeZ-IP's integration into the existing network is seamless—Macintosh users continue using the same tools and applications for accessing the server and printers that they always have, but the server delivers much higher performance. ExtremeZ-IP Print Accounting Add-on allows your Macintosh clients to provide information to you when printing jobs.

ExtremeZ-IP gives Windows the ability to serve files to Macintosh clients using AppleTalk Filing Protocol (AFP) services over TCP/IP which is faster than AppleTalk. In addition, AFP allows enhanced remote access because, being based on IP, it is easier to route over the Internet.

System requirements

Windows The ExtremeZ-IP File Server operates on Windows 2000®, 2003® or Windows XP®. For optimal results, your Windows machine should be running the latest service pack from Microsoft®. Adding additional RAM to your Windows machine may greatly enhance ExtremeZ-IP performance. Windows NT is no longer supported. See the table on the next page for system requirements.

WINDOWS SYSTEM REQUIREMENTS

Concurrent Users	Number of Files	Processor	RAM
1-10	1,000s	Pentium 2 or better	128 MB+
10s	10,000s	Pentium 3 or better	256 MB+
50+	1,000,000+	Dual Pentium 4/Xeon	1 GB+

Macintosh Macintosh clients must have Mac OS 9.0 or later. Macintosh clients should run the latest Mac OS release. If Macintosh clients are using Mac OS X, they must have version 10.2.4 or later. ExtremeZ-IP supports the latest Macintosh client technologies, including Bonjour®, the Service Location Protocol (SLP), Kerberos, and Apple's built-in encrypted logon support for long passwords. Print Accounting requires Mac OS X.

ExtremeZ-IP supports many features of AFP 3.1 (Apple File Protocol) for Mac OS X users including these.

- File names can be longer than 31 characters. Additionally, the ExtremeZ-IP server uses native Windows Unicode file system Application Programming Interfaces (APIs) that allow Mac OS X clients to create file/folder paths that are not restricted in length like most Windows applications.
- Users can create files using the Unicode character set, which is used worldwide to support the wide variety of characters found in different languages.
- Files can be larger than 2GB in size; ExtremeZ-IP can work with files of any size. Volumes can be larger than 4GB.
- ExtremeZ-IP supports Bonjour which allows Mac OS X clients to find and connect to the Windows-based server easily. Bonjour is based on the multicast DNS protocol which allows administrators to remove AppleTalk from their networks.

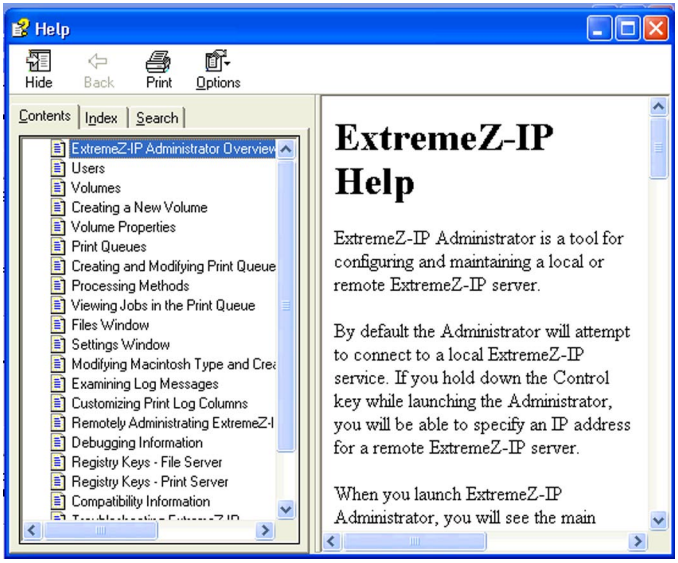
About This Document

The ExtremeZ-IP User's Guide is organized in this way.

- "Getting Starting with ExtremeZ-IP", provides instructions for installing and removing the ExtremeZ-IP File Server, the ExtremeZ-IP Print Server, and the ExtremeZ-IP Print Accounting Add-on on your machine and for starting and stopping the ExtremeZ-IP service.
- "ExtremeZ-IP File Server", provides instructions for administering ExtremeZ-IP File Server on local and remote computers, information about the features of ExtremeZ-IP, and instructions for remapping MS-DOS extensions to make files easy to use for Macintosh users.
- "ExtremeZ-IP Print Server", provides instructions for using the print server. Includes "ExtremeZ-IP Print Accounting Add-On" which provides instructions for using the ExtremeZ-IP Print Accounting Add-On.

Help

You can open Help from the Windows menu in the ExtremeZ-IP Administrator.


Help
Hide
Back
Print
Options
Contents
Index
Search
ExtremeZ-IP Administrator Overview
Users
Volumes
Creating a New Volume
Volume Properties
Print Queues
Creating and Modifying Print Queue
Processing Methods
Viewing Jobs in the Print Queue
Files Window
Settings Window
Examining Log Messages
Customizing Print Log Columns
Debugging Information
Registry Keys - File Server
Registry Keys - Print Server
Compatibility Information
ExtremeZ-IP Help
ExtremeZ-IP Administrator is a tool for configuring and maintaining a local or remote ExtremeZ-IP server.
By default the Administrator will attempt to connect to a local ExtremeZ-IP service. If you hold down the Control key while launching the Administrator, you will be able to specify an IP address for a remote ExtremeZ-IP server.
When you launch ExtremeZ-IP Administrator, you will see the main

For technical support services, call 1.703.528.1555 Monday through Friday, 9:00 am to 6:00 pm ET. Technical support for the first year you own ExtremeZ-IP is included in the price of the product. Have your ExtremeZ-IP serial number ready for verification. In addition, you can send questions to Group Logic's email at support@grouplogic.com

After your first year of free support, you can purchase extended support. The Maintenance and Support program provides you with important benefits, including e-mail, fax and telephone technical support services for problems that you encounter, as well as minor upgrades, bug fixes and other incremental releases of the software.

You can visit Group Logic at http://www.grouplogic.com. On these pages, you access the Group Logic Knowledge Base which contains the latest technical information about our products. And you can get news and product information, software updates and fixes, and more.

Installing ExtremeZ-IP

This chapter explains how to install each of the main components of the ExtremeZ-IP family of services.

- ExtremeZ-IP File Server
- ExtremeZ-IP Print Server
- ExtremeZ-IP Print Accounting Add-on

It also includes information about installing and using the following.

- AppleTalk
- Kerberos
- Clustering

The Installation Procedure

ExtremeZ-IP consists of several files installed on your computer. The primary component is a Windows Service, a program that runs automatically in the background even when no one is logged-in to the Windows machine. ExtremeZ-IP also includes an administrative tool that allows you to configure shared volumes, and other settings. ExtremeZ-IP Print Server allows you to share print queues for Macintosh computers in addition to sharing files and directories with a default of three Macintosh clients. If you have purchased a license for additional File Server Clients, they are supported. Print Accounting Add-on allows you to capture, validate and track cost accounting information with each print job as it is printed by a user. The installer program installs the components of ExtremeZ-IP which you purchased: ExtremeZ-IP File Server, ExtremeZ-IP Print Server and the ExtremeZ-IP Print Accounting Add-on..

If you already have a trial version of ExtremeZ-IP installed, you can install the full version on top of the existing version. ExtremeZ-IP preserves all users, volumes, settings and logs from the trial version.

ExtremeZ-IP and SFM If you are installing a trial version of ExtremeZ-IP on a server also running Services for Macintosh, the ExtremeZ-IP service will run on port 549 instead of the default AFP port 548. Services for Macintosh will remain running on port 548 allowing you to attach using both services. To connect to the ExtremeZ-IP service from a client, add ":549" after the server IP address or DNS name (ex. 192.168.1.1:549)

Required Windows file permissions for shared volumes ExtremeZ-IP relies on the SYSTEM account on its Windows server to perform many of its core functions. For this reason, any folder hierarchy that is shared as a volume with ExtremeZ-IP requires that the SYSTEM account has "Full Control" access to the entire folder hierarchy. This is a default permission for the Windows OS partition but any additional disks or partitions containing ExtremeZ-IP volumes must have SYSTEM = "Full Control" set to allow ExtremeZ-IP to function properly. Please verify that all the volumes you share have this permission set.

A note on sharing the root of a drive Since Windows treats permissions at the root of the file system differently than other folders, we recommend that you do not share out drive letters directly, but create a sub-folder for your shared volume instead.

INSTALLING THE EXTREMEZ-IP COMPONENTS YOU NEED

For reinstallations and upgrade installations, the ExtremeZ-IP installer can stop the ExtremeZ-IP Service to perform the new install. However, in some cases the installation could fail because the ExtremeZ-IP Service cannot be stopped; these include infrequent but possible service errors, conflicts with other running processes, or conflicts caused by installing while the Services Control Panel is open. If you experience installation failures, stop the ExtremeZ-IP Service manually.
You must be logged into Windows with Administrator privileges to install ExtremeZ-IP. To install one or more ExtremeZ-IP components, follow the steps in "Installing ExtremeZ-IP Program" below. If you are upgrading a previous ExtremeZ-IP installation, first follow steps 1-3 below to stop the ExtremeZ-IP Service.

Installing over a previous installation

If you have a current version of ExtremeZ-IP, stop it before installing a new version.

1. If you have another version of ExtremeZ-IP installed, from the Start menu, go to All Programs > Administrative Tools > Services.

2. Select ExtremeZ-IP File Service for Macintosh and click the stop symbol to stop the service. After you install your ExtremeZ-IP

Installing the ExtremeZ-IP program

This sections explains how to install ExtremeZ-IP File Server and the ExtremeZ-IP Print Server. See "Installing the Print Server" on page 55 for additional information about installing the Print Server.

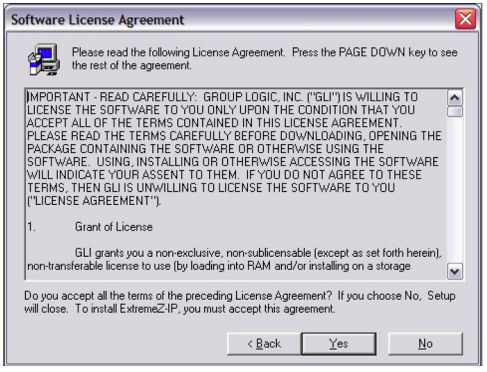
1. Run the installer program you downloaded from the Internet or located on the ExtremeZ-IP CD. If you have other programs running, shut them down.

Welcome
ExtremeZ-IP
Powered by: GroupLogic
This installer will install ExtremeZ-IP software on your computer. Click "Next" to proceed with installation or "Cancel" to exit.
This program is protected by copyright law and international treaties. Unauthorized reproduction or duplication of this program, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent of the law.
< Back
Next >
Cancel

Click Next to begin.

2. Click Release or Trial to choose to install the trial version (21 day expiration) or the purchases release. Click Next.

   The Software License Agreement dialog box appears.


Software License Agreement
Please read the following License Agreement. Press the PAGE DOWN key to see the rest of the agreement.
IMPORTANT - READ CAREFULLY: GROUP LOGIC, INC. ("GLI") IS WILLING TO LICENSE THE SOFTWARE TO YOU ONLY UPON THE CONDITION THAT YOU ACCEPT ALL OF THE TERMS CONTAINED IN THIS LICENSE AGREEMENT. PLEASE READ THE TERMS CAREFULLY BEFORE DOWNLOADING, OPENING THE PACKAGE CONTAINING THE SOFTWARE OR OTHERWISE USING THE SOFTWARE. USING, INSTALLING OR OTHERWISE ACCESSING THE SOFTWARE WILL INDICATE YOUR ASSENT TO THEM. IF YOU DO NOT AGREE TO THESE TERMS, THEN GLI IS UNWILLING TO LICENSE THE SOFTWARE TO YOU ("LICENSE AGREEMENT").
1. Grant of License
GLI grants you a non-exclusive, non-sublicensable (except as set forth herein), non-transferable license to use (by loading into RAM and/or installing on a storage
Do you accept all the terms of the preceding License Agreement? If you choose No, Setup will close. To install ExtremeZ-IP, you must accept this agreement.
< Back
Yes
No

3. Click Yes to indicate you accept the software license agreement.

   The Select Components dialog box appears.

Select Components
Please select which products you would like to install:
Note: You cannot install the Print Accounting Add-on without installing the Print Server.
File Server
Print Server
Print Accounting Add-on
< Back
Next >
Cancel

4. Select the Components you wish to install. Place a check in the appropriate checkbox or checkboxes using steps a, b, or c, then, click Next.

   a. Select both File Server and Print Server is you are installing the trial version.

   b. Select both File Server and Print Server if you are installing over an existing File Server. This requires both File and Print Server serial numbers.

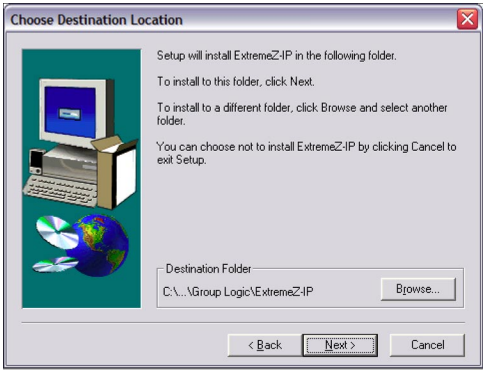
   c. Select only Print Server if you have a Print Server serial number but not a File Server serial number.

   The Registration dialog box appears.

File Server Registration
Please enter your name, the name of the company for whom you work and your File Server serial number.
Name:
Company:
Serial:
< Back
Next >
Cancel

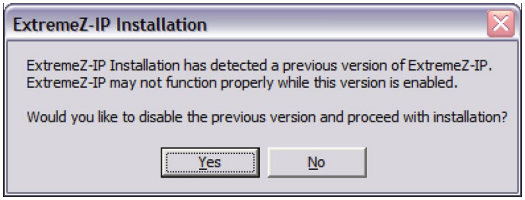
5. If you are installing a purchased release, enter your Name, Company and Serial Number, then, click Next.

   The Choose Destination Location dialog box appears.


Choose Destination Location
Setup will install ExtremeZ-IP in the following folder.
To install to this folder, click Next.
To install to a different folder, click Browse and select another folder.
You can choose not to install ExtremeZ-IP by clicking Cancel to exit Setup.
Destination Folder
C:\...\Group Logic\ExtremeZ-IP
Browse...
< Back
Next >
Cancel

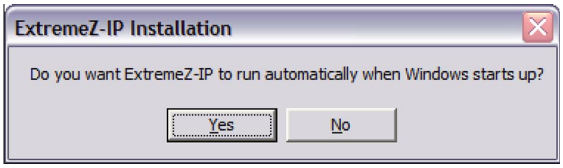
6. Choose a destination for the ExtremeZ-IP files, then, click Next.

It is recommended that you choose the defaults. If you are running a previous trial or release version of ExtremeZ-IP, a dialog box appears asking if you would like to disable the old version.


ExtremeZ-IP Installation
ExtremeZ-IP Installation has detected a previous version of ExtremeZ-IP.
ExtremeZ-IP may not function properly while this version is enabled.
Would you like to disable the previous version and proceed with installation?
Yes
No

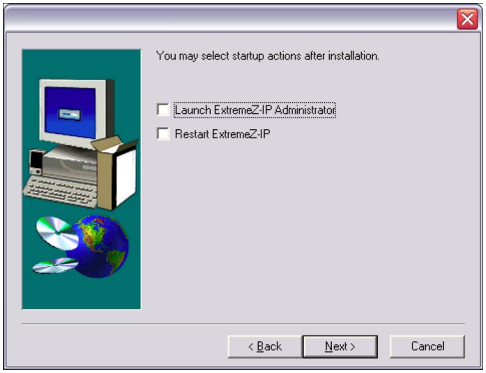
Choose Yes when asked if you want to disable this older version.

Your settings migrate to the new installation automatically. A dialog box appears asking if you would like ExtremeZ-IP to start automatically when Windows starts up.



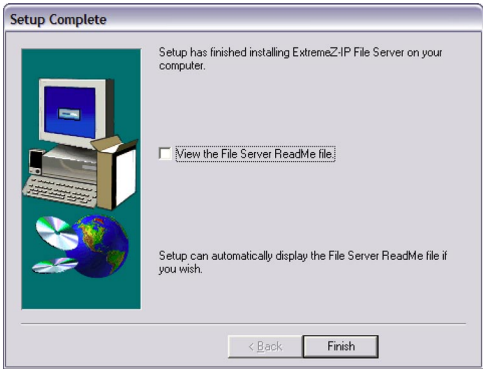
7. Click yes if you want ExtremeZ-IP to start automatically when Windows starts up, then, click Next.

   It is recommended that you do start ExtremeZ-IP automatically. ExtremeZ-IP installs and gives you the option of launching ExtremeZ-IP Administrator program immediately after the Setup Wizard completes its job.



8. Check the Launch ExtremeZ-IP Administrator checkbox, then, click Next.

   ExtremeZ-IP gives you the option of reading the ReadMe file.

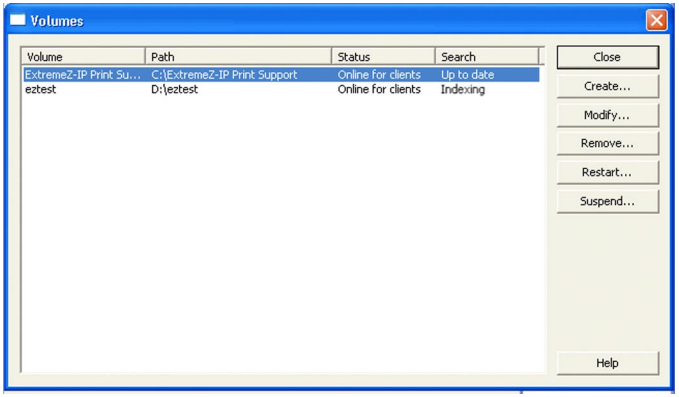

Setup Complete
Setup has finished installing ExtremeZ-IP File Server on your computer.
View the File Server ReadMe file.
Setup can automatically display the File Server ReadMe file if you wish.
< Back
Finish

9. Select the View the File Server ReadMe file checkbox, then click Finish to close the installer and open the ReadMe file.
   The ReadMe file may contain information more current than this manual.

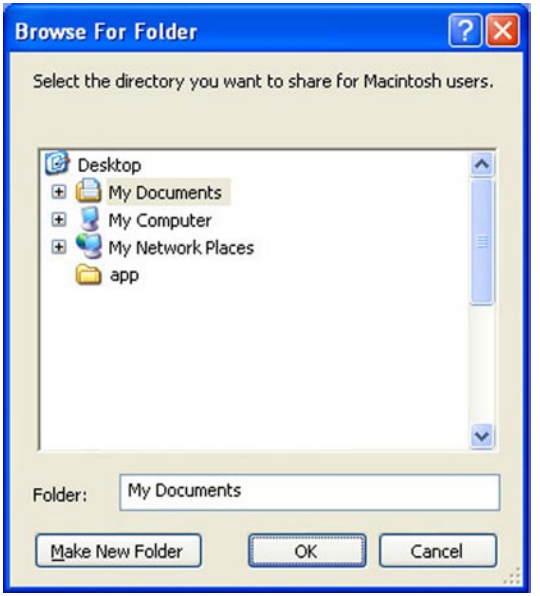
Configuring your first shared volume

1. From the Start menu, go to All Programs > ExtremeZ-IP to open the ExtremeZ-IP Administrator.

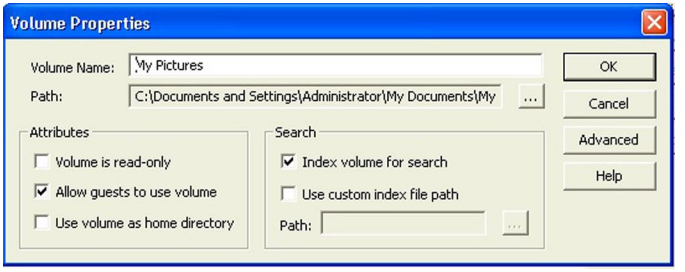
2. To create a volume to share, click Volumes.
   The Volumes dialog box appears.



3. Click Create on the Volumes dialog box.
   The Browse For Folder dialog box appears.



4. Browse for and select the folder you want to share, then, click OK.
   The Volume Properties dialog box appears

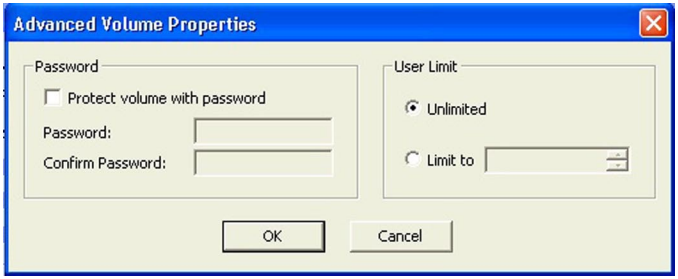


5. In the Volume Properties dialog box, change the volume name or path, if you wish.

6. Choose Attributes for the volume by placing a check in the checkbox for the attributes you want to apply to the volume you are creating.
   You may make the volume read-only, allow guests to use the volume, and use the volume as the home directory.

7. Choose to Index volume for search, the default, or use custom index file path, then type the path.
   See page 34 for a discussion of search methods and how to choose a method.

8. Click the Advanced button to set additional attributes for the volume.
The Advanced Volume Properties dialog box appears.



9. To protect the volume, place a check in the Protect volume with password checkbox; type the password and confirm it.

10. By default, and unlimited number of users have access to the volume at one time. To limit the number of users having access, click in the Limit to radio button and type a number of users to allow at one time.

11. Click OK to close the Advanced Volume Properties dialog box, then click OK in the Volume Properties dialog box.
Your volume is added to the list of Volumes to be shared online.

Please note: ExtremeZ-IP relies on the SYSTEM account on its Windows server to perform many of its core functions. For this reason, any folder hierarchy that is shared as a volume with ExtremeZ-IP requires that the SYSTEM account has "Full Control" access to the entire folder hierarchy. This is a default permission for the Windows OS partition but any additional disks or partitions containing ExtremeZ-IP volumes must have SYSTEM = "Full Control" set to allow ExtremeZ-IP to function properly. Please verify that all the volumes you share have this permission set.

Removing ExtremeZ-IP

You must be logged into Windows with Administrator privileges to remove ExtremeZ-IP.

To remove ExtremeZ-IP, follow these steps.

1. From the Windows Start menu, go to Programs/ExtremeZ-IP, and select Uninstall ExtremeZ-IP.

2. Click Yes when you are prompted to confirm the deletion.

Installing AppleTalk

When the AppleTalk protocol is installed on the server, ExtremeZ-IP attempts to display your server in the Chooser (OS 9) or Connect to Server dialog (OS X) for Mac OS users. If your server does not appear in the Chooser or Connect to Server dialog, ExtremeZ-IP logs an error in the Windows Event Viewer Application section as it tries and fails to register on the AppleTalk network. The AppleTalk protocol also allows AppleTalk printing from Mac OS 9 or OS X. Note that Bonjour is supported for Mac OS X.

You can install the AppleTalk protocol for Windows by adding it as a protocol in the Network Control Panel. Please note that Windows XP does not support AppleTalk.

Setting up Kerberos Authentication

Kerberos is a protocol that provides secure network authentication and support for "single sign-on" to network resources. Kerberos was created by the Massachusetts Institute of Technology to address several issues with network security such as username/password exchange, network security, client computer security and login persistence. It works on the premise that only the client and authenticating server share a piece of secret information and then it provides a way to confirm the shared information is accurate throughout the users session.

ABOUT KERBEROS

When a user on a client computer types in a username and password and submits that information to a server to log in, Kerberos handles the transaction by first authenticating the user and then issuing a "ticket" that uniquely identifies the client for the session. Kerberos provides encrypted key exchange to ensure security on both internal networks (behind firewalls) and insecure networks such as the internet. It also solves the problem of client side exploitations where the identity of the user can potentially be intercepted by an intruder to gain access. Once a user is authenticated, all further communication is encrypted for privacy and security. For more information on how Kerberos works on a Windows 2003 Server, go to:
http://www.microsoft.com/windowsserver2003/technologies/security/kerberos/default.mspx

Single Sign-On Support

Kerberos also provides for what is commonly called "single sign-on." Single sign-on support allows for a user to log in one time to a network domain (also called a "realm") and, after he is authenticated, gain access to resources on other computers without having to resubmit his user name and password. The ticket is used for future access to other applications and shared volumes during the users session. This helps to increase user productivity and allows for a more convenient user experience since the user is no longer prompted to enter a username and password after initially logging in.

EXTREMEZ-IP KERBEROS SUPPORT

ExtremeZ-IP supports the Kerberos authentication protocol to provide single sign-on and secure authentication to Windows server resources from Mac OS X clients. Kerberos was added as an authentication mechanism in the Apple Filing Protocol 3.1 in Mac OS X. This protocol extension defines how tickets are passed between the Macintosh client and an AFP server. AFP is the basis for network file exchange on Macintosh computers.

ExtremeZ-IP supports the Kerberos extensions in the AFP protocol, and works directly with Active Directory. It is registered as a Kerberos service provider and can authenticate Macintosh tickets. Since the tickets themselves are a standard format within Kerberos, ExtremeZ-IP takes tickets from a Macintosh and passes them to Microsoft Windows Active Directory for authentication then grants access to Windows server resources.

ExtremeZ-IP supports Kerberos by providing

- Secure, standardized authentication for Macintosh clients inside and outside the firewall
- Single Sign-On (SSO) support requires a user to login on once per session within a Windows Domain

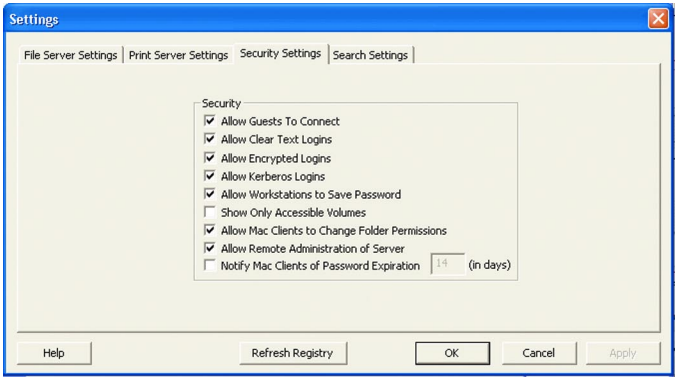
Setting up ExtremeZ-IP to use Kerberos

To use Kerberos, follow the steps below for the server and each client.

Server Setup

1. Make sure ExtremeZ-IP is running on a member of the network domain.
   ExtremeZ-IP is set to use Kerberos by default. If you have not changed this setting, you are set up correctly. If you have changed this setting, complete step 2.

2. Open ExtremeZ-IP; from the ExtremeZ-IP Administrator, click Settings. Click the Security tab of the Settings window. Place a check in the Allow Kerberos Logins checkbox.



Client Setup

Client computers must run at least Mac OS X 10.3.5 and must be bound to the Active Directory Domain. See the following knowledge base article for details:
http://www.grouplogic.com/knowledge/index.cfm/fuseaction/view/docID/167

Tips

- In order to verify that a client computer is bound to the Active Directory Domain correctly and is running the right version of Kerberos modules, try connecting to the server ExtremeZ-IP is running on over SMB from a Mac by typing smb://SERVER_NAME into the Server Address field in the Connect To Server dialog
- In order to verify that a client computer has communicated successfully with the Kerberos ticket authority and received a ticket for ExtremeZ-IP, run the Kerberos UI application located in System:Library:CoreServices.

Setting up Clustering

Microsoft Cluster Servers (MSCS) are specially linked servers running the Microsoft Cluster Service. If one server fails or is taken offline, other server(s) in the cluster will immediately take over the failed server's operations. The primary purpose of clustering is to provide fast failover and quick restart of the application services provided by the failed server node. This configuration delivers the benefit of high availability for applications running on the cluster. Resources running on multiple servers appear to connected clients as a single system, referred to as a "virtual server." When a successful failover occurs because of a problem, the connected user cannot tell that there was actually a very brief interruption in service.

ExtremeZ-IP is a cluster-aware application that can be deployed on active/active clustered configurations. Multiple instances can run on a single server node. Each instance can have its own IP address and can be assigned to its own shared volume independently. The configuration of multiple virtual servers provides server consolidation and load management benefits. Running multiple instances of ExtremeZ-IP on a server node provides high reliability because each instance runs in isolation from the others. Failover to the other server is immediate because ExtremeZ-IP does not need to index files when the failover node comes online.

ExtremeZ-IP provides support for these services in Clustered Configurations

- active-active clustering
- multiple virtual servers per node in a cluster
- improved reliability & availability
- more than 4-node clusters in Windows 2003
- possible server consolidation

Note: When you are running ExtremeZ-IP in a clustered environment, the ExtremeZ-IP Administrator window includes, in the title bar:

- the name of the server in upper case characters
- the name of the service in upper or lower case as you typed in when you set the service up

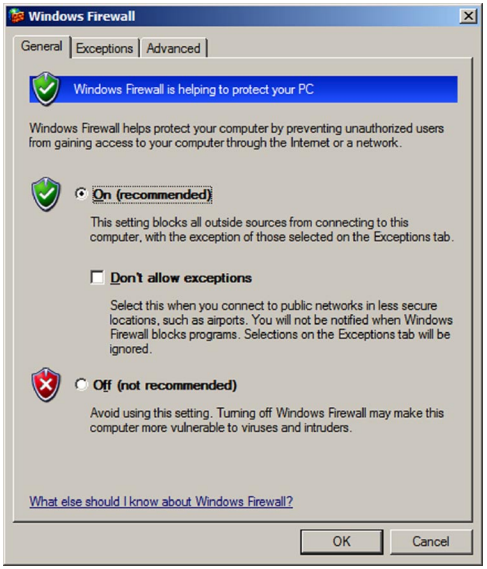
See the ExtremeZ-IP Cluster Guide.pdf and the following knowledge base article for details about clustering:

http://www.grouplogic.com/knowledge/index.cfm/fuseaction/view_Info/docID/146

Firewall Considerations on Windows XP and 2003

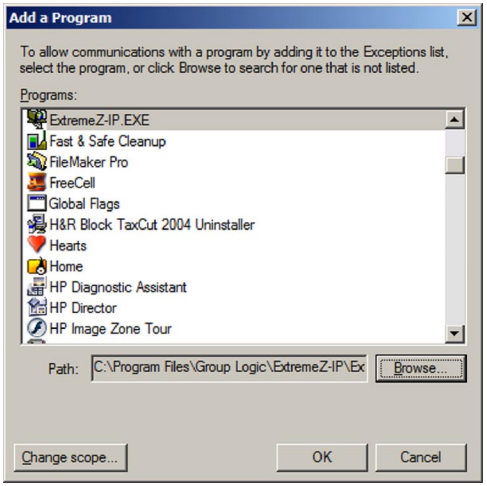
You must create a firewall exception for the application ExtremeZ-IP.exe. Even if your firewall is turned off, we recommend that you create this exception in the event someone accidentally turns the firewall on (some Windows updates will turn your firewall on automatically). To create the firewall exception, follow these steps.

1. From the Control Panel open the firewall (Security Center in XP).
   The Windows Firewall dialog appears with the General tab selected.


Windows Firewall
General
Exceptions
Advanced
Windows Firewall is helping to protect your PC
Windows Firewall helps protect your computer by preventing unauthorized users from gaining access to your computer through the Internet or a network.
On (recommended)
This setting blocks all outside sources from connecting to this computer, with the exception of those selected on the Exceptions tab.
Don't allow exceptions
Select this when you connect to public networks in less secure locations, such as airports. You will not be notified when Windows Firewall blocks programs. Selections on the Exceptions tab will be ignored.
Off (not recommended)
Avoid using this setting. Turning off Windows Firewall may make this computer more vulnerable to viruses and intruders.
What else should I know about Windows Firewall?
OK
Cancel

2. On the General Tab, make sure "Don't Allow Exceptions" is **not** selected.

3. Click the Exceptions Tab, then, click the Add Program button.



4. Select ExtremeZ-IP.exe.
   You may have to browse to C:\Program Files\Group Logic\ExtremeZ-IP.

5. Select OK and close the Firewall configuration window.

ExtremeZ·IP™

FILE SERVER

THE EXTREMEZ-IP FILE SERVER

ExtremeZ-IP File Server

This chapter provides instructions for starting, stopping, and using the ExtremeZ-IP Server.

Starting the ExtremeZ-IP File Server

You must be logged into Windows with Administrator privileges to start the ExtremeZ-IP service. You may have started the ExtremeZ-IP service when you installed it. When you launch the ExtremeZ-IP Administrator, if you have not already started the ExtremeZ-IP service, it asks you if you want to.

STOPPING EXTREMEZ-IP

You must be logged into Windows with Administrator privileges to stop the ExtremeZ-IP service.

To stop the ExtremeZ-IP service, follow these steps.

1. Open the Services control panel from the Administrative Tools menu.
   The Services dialog box displays.

2. In the Services control panel, select ExtremeZ-IP File Server for Macintosh, then click Stop.
   The service stops.

Configuring the ExtremeZ-IP Server

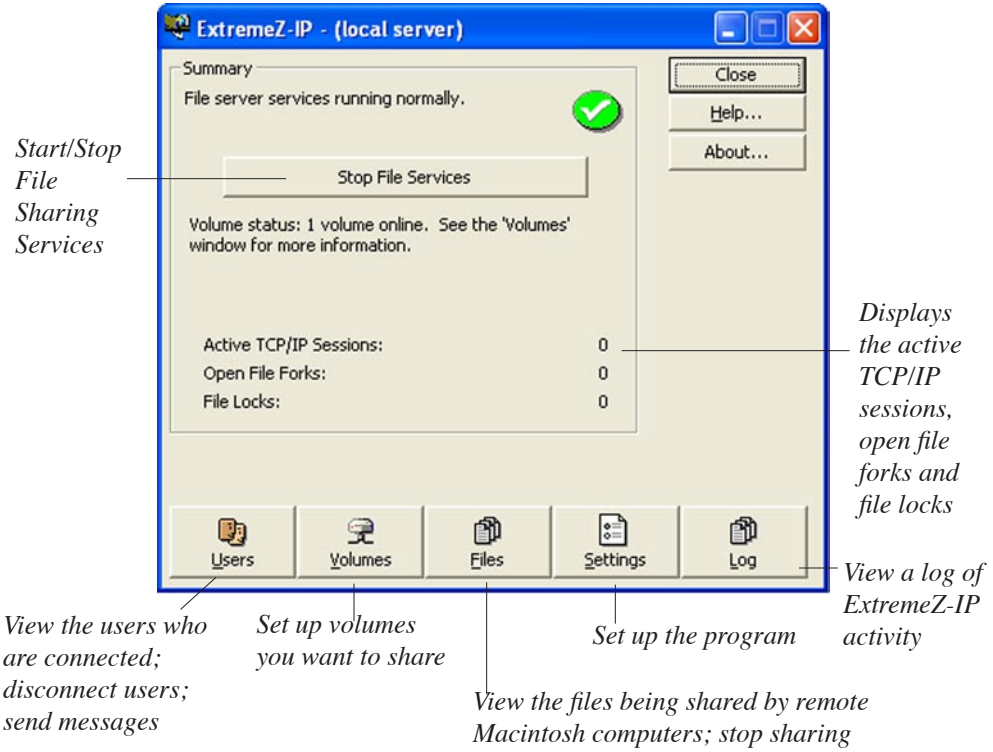
This section gives an overview of administering the ExtremeZ-IP service. You can administer the service on a local or a remote computer.

SETTING UP THE EXTREMEZ-IP FILE SERVER

Use the ExtremeZ-IP Administrator to view, disconnect, and send messages to connected users, manage shared or mounted volumes, assign printers and specified directories (hot folders), and adjust specific machine settings. You can administer the local computer or remote computers on which ExtremeZ-IP is installed as long as you have Administrative privileges.

To manage ExtremeZ-IP on the computer you are using, follow these steps.

1. From the Windows Start menu, go to Programs/ExtremeZ-IP and select ExtremeZ-IP Administrator.
   The ExtremeZ-IP Administrator dialog box appears. Note that the words "local server" show you that you are administering the computer you are working on.


ExtremeZ-IP - (local server)
Summary
File server services running normally.
Close
Help...
About...
Start/Stop File Sharing Services
Stop File Services
Volume status: 1 volume online. See the 'Volumes' window for more information.
Active TCP/IP Sessions: 0
Open File Forks: 0
File Locks: 0
Displays the active TCP/IP sessions, open file forks and file locks
Users
Volumes
Files
Settings
Log
View a log of ExtremeZ-IP activity
View the users who are connected; disconnect users; send messages
Set up volumes you want to share
View the files being shared by remote Macintosh computers; stop sharing
Set up the program

2. To stop all file sharing, click Stop File Services. To resume file sharing, click Start File Services.

3. Use the Volumes and Settings buttons to set up ExtremeZ-IP.
   See "Using the ExtremeZ-IP File Server" on page 29 for more about the ExtremeZ-IP commands.

4. Click Close to dismiss the ExtremeZ-IP dialog box.
   The ExtremeZ-IP File and Print Servers continue to run even though the Administrator window is closed.

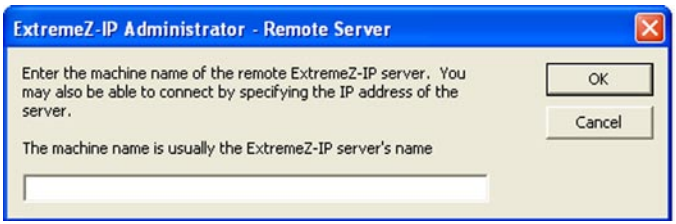
Note: In addition to the method described above, you can configure ExtremeZ-IP from DOS using the EZIPUTIL.EXE. To run this utility, from the DOS Command line go to the ExtremeZ-IP directory and type EZIPUTIL.EXE. Information about EZIPUTIL.EXE options is listed.

REMOTE ADMINISTRATION OF EXTREMEZ-IP

You can configure ExtremeZ-IP on a remote computer if the program is already installed on that computer. You must have Windows Administrative privileges on the computer you are using and on the remote computer as well.

To administer a remote ExtremeZ-IP program, follow these steps.

1. Hold down the Control key while you launch the ExtremeZ-IP Administrator.
   The Remote Administration dialog box appears.


ExtremeZ-IP Administrator - Remote Server
Enter the machine name of the remote ExtremeZ-IP server. You may also be able to connect by specifying the IP address of the server.
The machine name is usually the ExtremeZ-IP server's name
OK
Cancel

2. Type the name or IP Address of the remote computer and click OK.
   The ExtremeZ-IP Administrator dialog box appears—it is identical to the local server Administrator dialog box except that the title of the dialog box shows the name or IP Address of the remote computer whose ExtremeZ-IP service you are configuring. (see the previous page)

   If you get an error message, check that you entered the correct IP address or name for the remote computer.

3. To stop all file sharing, click Stop File Services. To resume file sharing, click Start File Services.

4. Use the Volumes and Settings buttons to set up ExtremeZ-IP.
   See the following section for more information on the ExtremeZ-IP commands

5. Click Close to dismiss the ExtremeZ-IP dialog box.

Using the ExtremeZ-IP File Server

Before using ExtremeZ-IP, you need to set up your server name, security and other settings using the Settings dialog box. Then, you can create a list of the Volumes you want to share and the printers or specified directories (hot folders) you want your Macintosh clients to use. After completing these three tasks, Macintosh clients can connect to your server and use the volumes and printers you set up. You can check the Users, File, and Print Queues dialog boxes to see who is connected, which volumes they are accessing, and which jobs they are processing. In addition, you can send messages, disconnect users

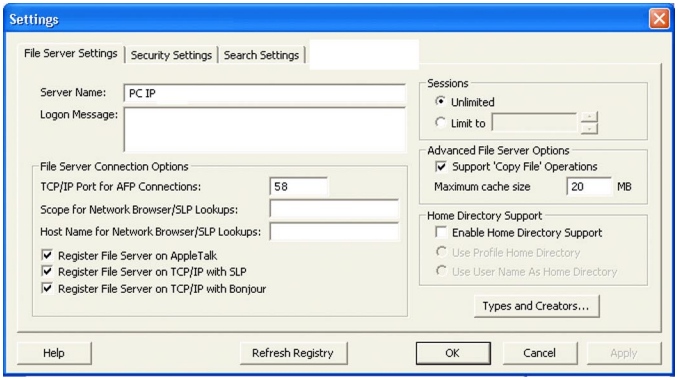
and delete items from the files being viewed and the Print Queues dialog boxes. At any time you can modify the list of volumes and printers available to your Macintosh clients.

SETTINGS

Before using ExtremeZ-IP, review the default settings and make any changes you wish. The Settings dialog box has three tabs: File Server Settings, Security Settings and Search Settings. In addition, if you have installed the Print Server, a Print Server Settings tab appears, see " ExtremeZ-IP Print Server" on page 53.

To use this dialog box, follow these steps.

1. From the ExtremeZ-IP Administrator window, click Settings.
   The Settings dialog box appears.



2. In the File Server Settings tab, you can make changes to the way ExtremeZ-IP interacts with other computers when it offers file sharing services.

   Server Name The Server name appears in the login window whenever a Macintosh user connects to the server. This name also appears in the Mac OS X Connect to Server dialog and on earlier Mac OS systems in the Chooser and the Network Browser when Macintosh users browse the network. You may change the name, if you wish, using uppercase and lowercase text.

   Note: Macintosh users can mount a volume even if they cannot see the server name in the Chooser. After highlighting AppleShare, the user clicks the Server IP Address button, then enters the server's TCP/IP address or name.

   WARNING If you are using ExtremeZ-IP and Services for Macintosh on the same server machine, you must enter a different server name for ExtremeZ-IP from the one used by Services for Macin-

tosh. If you use the same server name, then either Services for Macintosh will fail, or ExtremeZ-IP will not be able to show up in the Chooser.

Logon Message The logon message displays on the Macintosh users computer after they have successfully logged in. Type the message you want displayed. Leave the message blank if you do not want clients to receive a message when they log in.

File Server Connection Options If required for your connection, make changes to the File Server Connections Options.

You can type a new port number for the TCP/IP port the file server uses; the default is 548. If you use the same server name as Services for Macintosh, then SFM or ExtremeZ-IP will not be able to show up in the Chooser.

Type the name of the SLP scope (or Neighborhood) you want the file server to appear in when Mac OS 9 clients use the Network Browser.

Type a host name which will be the name of the server provided to Macintosh clients when they use the Network Browser.

Decide which network protocols the server attempts to register with—AppleTalk, TCP/IP with SLP or TCP/IP with Bonjour—by placing a check in the appropriate checkboxes.

- When AppleTalk is selected, Mac OS 9 users can see volumes and print queues in the Chooser without having to specify the IP address, and Mac OS X users can see them in Connect to Server and Add Printer dialogs. To register the server on AppleTalk, the AppleTalk protocol must be installed on the 2000 server. Windows XP does not support AppleTalk. Note that if you use the Chooser (AppleTalk) to find print queues, you will print using AppleTalk, not TCP/IP.
- SLP allows Mac OS 9 users to see volumes and print queues in the Network Browser. Using Choose IP Printer to find print queues is the easiest way to setup TCP/IP print queues on Mac OS 9; this uses SLP.
- Bonjour allows Mac OS X users to see volumes in the Connect to Server dialog and print queues in the Print Center.

Sessions If required for your connection, make changes to the Sessions Options. If you wish, limit the number of users who can access the server at a given time by typing a number in the Limit to text box. This limitation is used in combination with your license agreement. If you have a license for ten users, you cannot have more than ten users regardless of this setting.

Advanced File Server Options The file server provides advanced settings

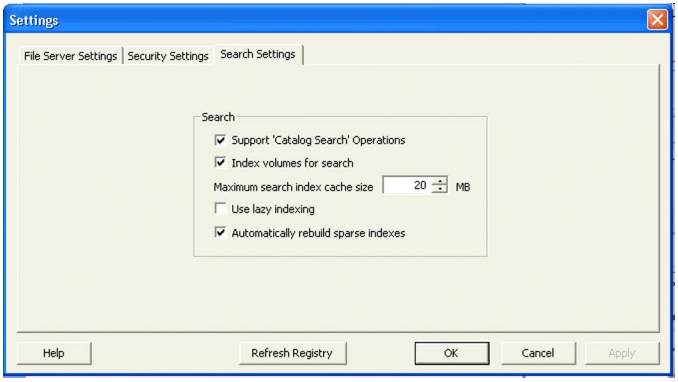
- To use the default for copying files (allowing the server to perform copy operations when the source and destination are both on the same server), leave the check in the Support 'Copy File' Operations checkbox. When the client does not have to read and write each file across the network, the network bandwidth required is greatly reduced.
- Type a cache size in the Maximum Cache size textbox to change the size of the node table cache that ExtremeZ-IP keeps in memory. The node table cache is a list of information about files that are being shared. Setting a different cache size allows you to adjust the tradeoff between performance and memory usage. ExtremeZ-IP retains information in RAM for the most recently accessed files, up to the limit set in the Cache size textbox. If a Macintosh user requests a file that is not in the node table cache, ExtremeZ-IP goes to disk to retrieve the information and stores it in the node table. If the maximum cache size has been reached, ExtremeZ-IP discards the oldest entry in the node table.

Home Directory Support

- To allow volumes to be designated as home directories, place a check in the Enable Home Directory Support checkbox. In addition, choose whether you want users assigned a home directory specified in their Active Directory profile or a home directory based on their user name.

Types and Creators If you wish, click the Types and Creators button to fill out the Macintosh Type/Creator to Extension Mappings dialog box to meet your specifications. See "Remapping Extensions" on page 46 for information on remapping MS-DOS extensions to Macintosh types.

3. In the Security Settings tab, you can set as many security options as you wish by placing a check in the appropriate checkbox.



Allow Guests to Connect If you choose to allow guests to connect, a Macintosh user is able to login to the file server without supplying a name and password. The user's privileges during that session are limited to the permissions normally given to the 'Everyone' group under Windows.

Note: You must configure Windows XP and later Windows systems including Windows 2003 to allow guests to access a volume. See "Configuring Guest Access for Windows XP and 2003" page 50.

Permission to connect does not mean Macintosh clients have access to your entire computer. You designate which volumes on your computer you want to share with Macintosh clients. See "Volumes" later in this chapter.

Allow Clear Text Logins If you choose this option, Macintosh users can connect by sending their password in clear-text form over the network. This may be a security problem and clear-text passwords are limited to 8 characters.

Allow Encrypted Logins If you choose this option, Macintosh users can encrypt their password before sending it across the network allowing for greater security and longer passwords.

Allow Kerberos Logons If you choose this option, Macintosh users can logon with Kerberos protection. Kerberos is a protocol that provides secure network authentication and support for "single sign-on" to network resources. It applies only to users with Mac OS X 10.3.5 or greater. See the earlier section on page 19 which describes Kerberos in more detail.

Allow Workstations to Save Passwords If you choose this option, Macintosh users can store the login password for automatically mounting the volume at startup.

Show Only Accessible Volumes If you check this option, Macintosh users who connect to the server see only volumes which they can access.

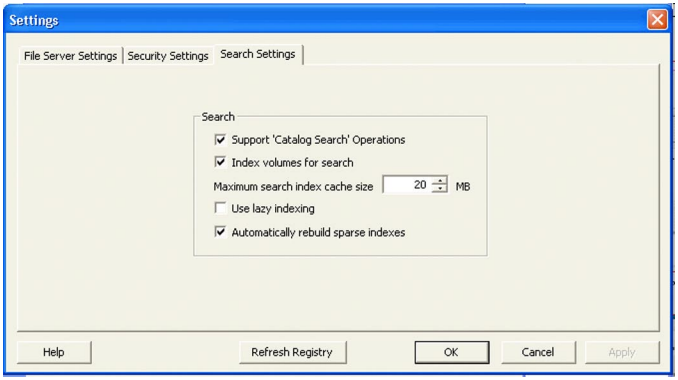
Allow Mac Clients to Change Folder Permissions The default option allows Macintosh clients to change folder permissions. When you disable this option by removing the check, the file server ignores attempts by Macintosh users to specify security settings on folders.

A Macintosh client can change permissions for a folder by highlighting it and accessing the Sharing section of the Get Info window in the Macintosh Finder®.

Allow Remote Administration of Server This option allows Windows users, who have Administrative privileges, to configure the server remotely using the Remote Administration features of ExtremeZ-IP.

Notify Mac Clients of Password Expiration You can require Macintosh users to change their sign-on password after a period of time has passed. This textbox allows you to notify Macintosh users that their old password is about to expire and asking them to create a new password.

4. In the Search Settings tab, configure features of ExtremeZ-IP indexed file search.



Searching ExtremeZ-IP's search function creates an index file containing information about every file on your ExtremeZ-IP volumes. Instead of scanning your server's driver each time a Macintosh client makes a search request and looking through every file in the volume, ExtremeZ-IP checks the index file to retrieve search results.

ExtremeZ-IP creates a search index file for each ExtemeZ-IP volume unless you change this default. Each volume with index searching enabled contains an index file in the root of its physical location on the server; the file beings with '.INDEX' and is hidden from Mac clients. You, and PC clients using Windows File Sharing, can see the index file by browsing to the volume location on the server itself if you have Show Hidden Files and Folders enabled. You can change the location of the index file for a volume; see the section "Volumes" starting on page 37.

Index volumes for search Indexed searching is enabled on all existing and newly created volumes by default. You can disable or enable indexed searching on a per volume basis by checking or unchecking the Index volume for search checkbox in the individual volume's Volume Properties dialog in ExtremeZ-IP Administrator. See page 39 . This property can be set at initial volume creation time or after the volume has been created. In order for changes to this setting to take effect, you must stop and restart the ExtremeZ-IP File Services for Macintosh service.

Support 'Catalog Search' Operations If you want to allow the client to request that the server perform search operations (such as Sherlock searches), place a check in the Support 'Catalog

Search Operations checkbox. Allowing the server to make the searches greatly reduces the network bandwidth required for the search. Support 'Catalog Search' Operations must be enabled for Indexed File Search to function.

Maximum search index cache size This cache is set to a maximum size of 20 MB by default. The amount of RAM used by indexed searching grows to approximately the total size of all index files on your server; an index file containing 250,000 files is about 8 MB in size. Leaving the cache limit at the default setting gives sufficient performance in almost all cases. On a server with a large amount of physical memory and over 500,000 files in shared volumes, search performance may improve if the search RAM cache limit is raised to 32 MB times the number of millions of files on the server. When the server is running with limited physical memory, the RAM can be reduced to as little as 8 MB.

Use lazy indexing By default, indexed searching uses any available system resource to keep its indexes up to date and cooperates with other system processes and should not affect overall system performance adversely. However, when a server is under high load or is running many different services simultaneously, you can limit the system resources that search indexing consumes by placing a check in the Use lazy indexing checkbox. This setting takes effect immediately.

Automatically rebuild of sparse index In order to optimize runtime performance, the ExtremeZ-IP index file entries for files that have been deleted or moved from a volume are not physically removed from the index file at the time the actual file is deleted. The indexed search service is designed to account for these deleted entries and to keep search results accurate despite the fact that these entries are left in the index file. However, this causes the index file to grow over time and, as the file gets larger, slow search performance to a small extent. The rate at which the index file grows is dependent of the number of files being added, moved, and deleted on the file server. In order to keep ExtremeZ-IP search performing at optimal levels, volumes' indexes will be routinely re-indexed and compacted. The interval at which this occurs is determined by the ratio of deleted (stale) records to valid entries in the index. By default, the ExtremeZ-IP search service re-indexes an individual volume when approximately one-third of that volume's index file records are deleted, stale records.

Maintenance occurs on a per volume basis and only on volumes requiring re-indexing. While re-indexing, the volume's existing search index is kept up to date and used to provide one hundred percent accurate search results. Re-indexing should not have any detrimental effect on other server processes while it is running. While ExtremeZ-IP is re-indexing an individual volume, a status of "Reindexing" will be shown in the Volumes dialog of the ExtremeZ-IP Administrator.

If you prefer, you can schedule re-indexing on a set schedule during off-hours. An EZIPUTIL command, described in the following section, can be used in a batch file or script and triggered by a scheduling service of your choice. If you choose this method of scheduled re-indexing, disable automatic re-indexing by removing the check in the Automatic rebuild of sparse indexes setting checkbox.

5. Click Close to return to the ExtremeZ-IP Administrator window.

With ExtremeZ-IP indexed searching enabled on the server, a Mac client can use the built-in Mac OS search functionality to perform fast searches of ExtremeZ-IP volumes. No client side configuration or applications are necessary.

Note The Mac OS performs two types of files searches: catalog searches and enumeration searches. A catalog search issues a search request that is processed on the server side. This is the type of request that ExtremeZ-IP indexed searching responds to. The Mac OS only issues a catalog search request when the user is searching the root of a volume. For this reason, it is only technically possible to provide indexed search results for searches initiated at the root of a volume. Please instruct your users to search the entire ExtremeZ-IP volume for the fastest results. If a search is initiated from a sub-folder of a volume, Mac OS performs an enumeration search and scans this folder and all of its subfolders across the network. This combination of non-indexed searching and network latency results in drastically reduced search performance.

SCHEDULING RE-INDEXING WITH EZIPUTIL

By default, ExtremeZ-IP automatically re-indexes file entries for its indexed search. Alternately, you can schedule re-indexing on a set schedule during off-hours using an EZIPUTIL command in a batch file or script and triggered by a scheduling service of your choice. First, disable automatic re-indexing by removing the check in the Automatic rebuild sparse indexes checkbox found in the Search Settings dialog box (see section above "Settings"). EZIPUTIL.exe is located in the chosen ExtremeZ-IP program installation directory on the server.

Enable manual re-indexing The following command is included in the EZIPUTIL utility; use it to trigger the reindexing of a volume manually. In addition, you can use it to schedule re-indexing using scripts or batch files during off-hours.

```
EZIPUTIL VOLUME /REINDEX
/NAME:volumename
/PATH:root directory path
[/SERVICENAME:servicename] (Cluster only).
```

Enabling Search Logging If you wish to view a detailed status of search indexing in the ExtremeZ-IP log, enable search logging. This allows you to view the status of search requests, indexing, and incremental index updates in the ExtremeZ-IP log. With search logging at its default setting, error and warning messages only are written to the log. To enable search logging change the value of the registry key.

HKEY_LOCAL_MACHINESYSTEMCurrentControlSetServicesExtremeZIP
Parameters4DebugLoggingSearch
To "INFO". By default, the ExtremeZ-IP log is located in: C:Program FilesGroup LogicExtremeZIP
LogsExtremeZ-IPExtremeZ-IP LOG.txt

VOLUMES

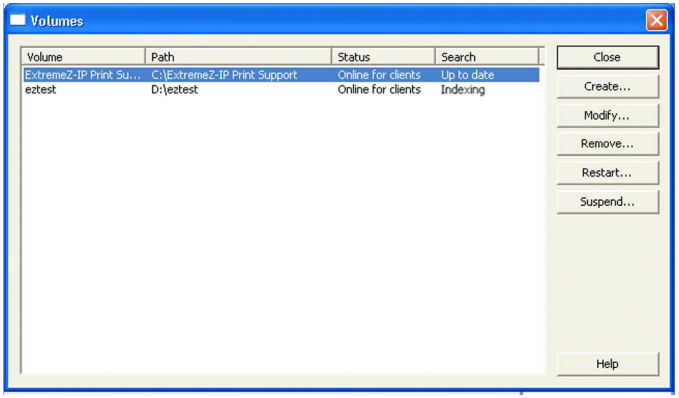
You can share NTFS directories located on your Windows system for Macintosh users. When Macintosh users connect, they see these directories as remote AppleShare "volumes." Use the Volumes dialog box to create, modify or delete individual volumes to share with Macintosh users.

Note: ExtremeZ-IP and Services for Macintosh (SFM) should not be configured to share the same volumes. If ExtremeZ-IP detects the SFM is running and sharing the same volume, ExtremeZ-IP shuts down this volume and logs an error in the Event Viewer.

To create a volume, follow these steps.

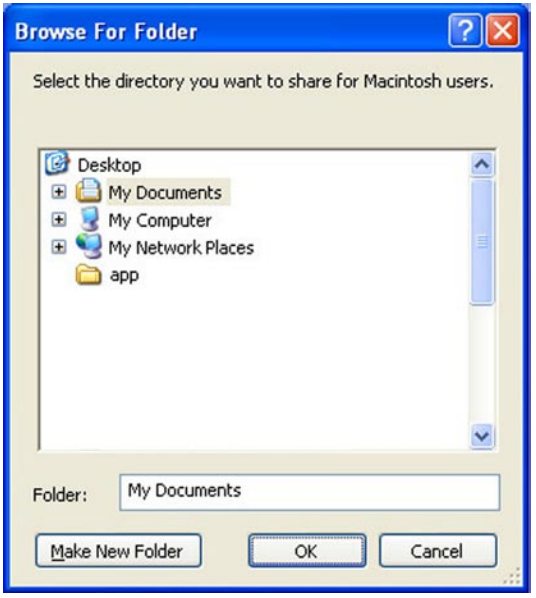
1. Create a new directory on an NTFS-formatted volume on the server machine or find an existing directory that you want to use.
   Volumes can only be shared if they reside on an NTFS formatted disk. If you try to create a volume that is not on an NTFS formatted disk, ExtremeZ-IP gives an error message.

2. From the ExtremeZ-IP Administrator window, click Volumes.
   The Volumes dialog box appears.



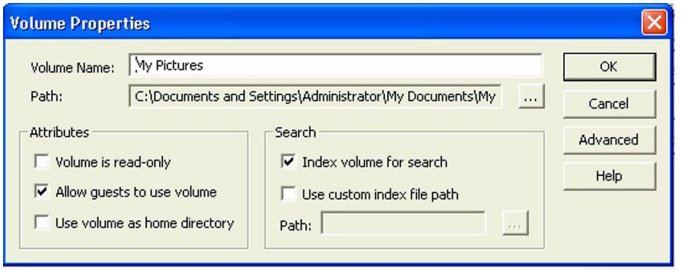
3. Click Create.

The Browse for Folder dialog box appears.



Using the Browse for Folder, locate and select the folder (directory) you want to share from an NTFS formatted disk, then click OK.

The Volume Properties dialog box appears. ExtremeZ-IP enters the name of the folder in the Volume Name text box.



4. If you wish, type a new Volume Name or Path.

The name of the directory on your hard drive remains the same. A name can have no more than 27 characters. If the directory you chose has more, ExtremeZ-IP truncates the name to 27 characters. Volume names must be unique; you cannot have two volumes with the same name.

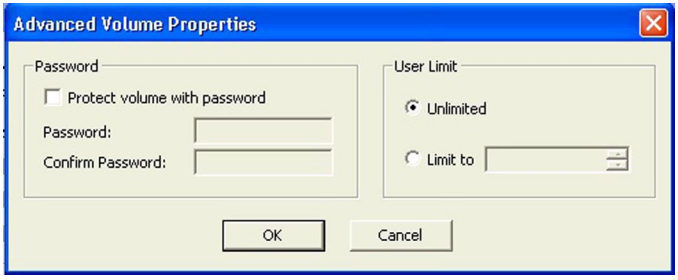
5. Set Attributes, if you wish.

Setting the Volume to read-only prohibits Macintosh users from changing any documents on the volume or adding any new files or folders. If you want a Macintosh user who logs into ExtremeZ-IP as a guest to access the volume, place a check in the Allow guests to use volume checkbox. To use this volume as a Home Directory, check the Use volume as home directory checkbox. In order for this feature to function, you also need to choose a server-wide home directory support option in the ExtremeZ-IP Administrator > Settings dialog > File Server Settings tab.

6. Choose Search settings.
Indexed searching is enabled on newly created volumes. To disable this feature, remove the check form the Index volume for search checkbox; in addition, you must stop and restart service ExtremeZ-IP Files Services for Macintosh for this change to take effect. See step 4 on page 34 which describes choosing search settings in the Search Settings dialog box.

A volumes's search index file is created in the root of the volume's physical location on the server. To specify an alternate index file location for a volume, place a check in the Use custom index file path checkbox and type a path for the new location.

7. Click the Advanced button to set a volume password or user limit.

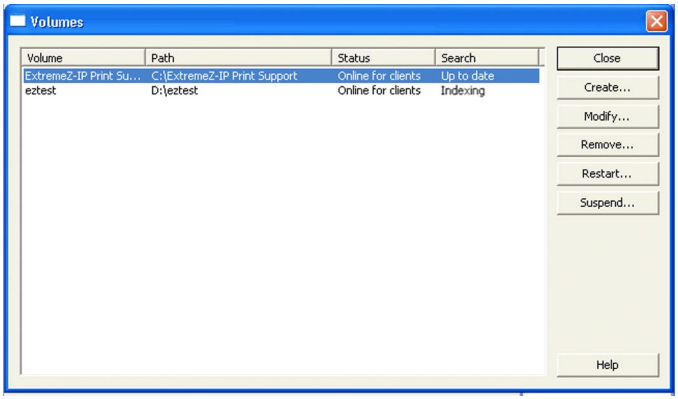


8. On the Advanced Volume Properties dialog box, to require the Macintosh client to type a password before accessing the volume, place a check in the Protect volume with password checkbox. Type the password, then type it again to confirm it.

9. On the Advanced Volume Properties dialog box, if you do not want to allow an unlimited number of users access to the volume at the same time, click the Limit to radio button and type the number of users to restrict access to at the same time.
If your ExtremeZ-IP license is limited to a specific number of users and you choose Unlimited or enter a numerical limit higher than your license count, ExtremeZ-IP respects the client count terms of your license and only allows access to the maximum permitted by your license.

10. Click OK to close the Advance Volume Properties dialog box, then, click OK to close the Volume Properties window.

The Volumes dialog box appears and list the new volume. As soon as its status becomes "Online for Clients", Macintosh clients can see and mount this volume when they go to their Chooser and click AppleShare.



11. Create more volumes, if you wish. When you have finished, click Close in the Volumes dialog box to return to the ExtremeZ-IP Administrator window.

Modifying a volume

You can modify or delete an existing volume. If Macintosh clients are connected to the volume when you modify it, they are not disconnected. Instead, for those users, the new settings take effect after they dismount and attempt to connect again.

To modify an existing volume, follow these steps.

1. In the Volumes dialog box, select the volume you want to change and click Modify.
   The Volume Properties dialog box is displayed.

2. Make the changes you want.

3. Click OK to return to the Volumes dialog box.

To delete an existing volume from the Volumes list, follow this step.

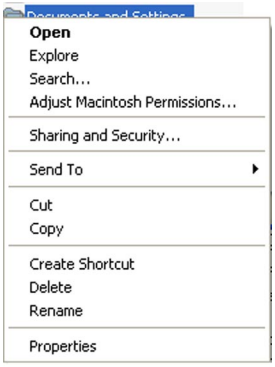
On the Volumes dialog box, select the volume you want to remove and click Remove.
The directory and its contents are still intact, but Macintosh clients can no longer access the volume.

Properties of shared files and folders

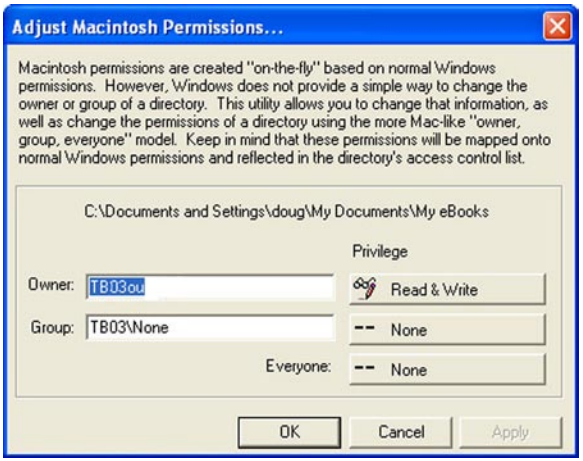
ExtremeZ-IP uses all Windows user logon and passwords so file and folder security is identical to that provided by Windows Services for Macintosh (SFM). Because Windows and Macintosh computers handle folder and file properties differently, not all Windows access information is displayed on Macintosh sharing information dialog boxes.

Because ExtremeZ-IP enforces Windows security settings, you should normally use Windows's built in tools for adjusting directory and file access permissions. These tools provide greater flexibility for setting up your security policy. However, if you are unfamiliar with Windows security settings and would like to adjust permissions quickly from a Macintosh user's perspective, you can use the Adjust Macintosh Permissions plug-in for Explorer as described below.

1. To change the permissions, right-click the directory.
   A pulldown menu appears.



2. Choose Adjust Macintosh permissions.
   The Adjust Macintosh Permissions dialog box appears.


Adjust Macintosh Permissions...
Macintosh permissions are created "on-the-fly" based on normal Windows permissions. However, Windows does not provide a simple way to change the owner or group of a directory. This utility allows you to change that information, as well as change the permissions of a directory using the more Mac-like "owner, group, everyone" model. Keep in mind that these permissions will be mapped onto normal Windows permissions and reflected in the directory's access control list.
C:\Documents and Settings\doug\My Documents\My eBooks
Privilege
Owner:
TB03ou
Read & Write
Group:
TB03\None
-- None
Everyone:
-- None
OK
Cancel
Apply

3. Make changes to the Read and Write privileges, as you wish, using each button's drop-down menu.

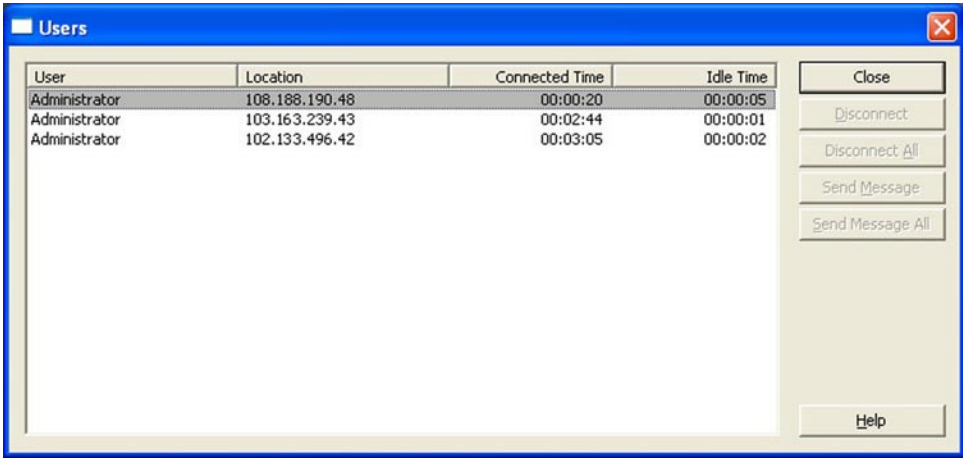
4. Click OK.
   The changes take effect immediately for the affected directory.

USERS

The Users dialog box lets you view the users connected to the server, disconnect those users, or send messages to them. See the section on the next page 'Macintosh Users" for information on user name and password entry.

To view the Users dialog box, follow these steps.

1. On the ExtremeZ-IP Administrators dialog box, click Users.
   Those Users who are currently connected are identified by their name and IP Address. Their connection and idle times are given. The dialog refreshes automatically. You can sort the list by a column by clicking on the column title.



Note that individual user accounts are defined by the Windows User Manager. ExtremeZ-IP uses this information to determine the user status and access privileges.

2. To disconnect a user, highlight the user's name and click Disconnect. To disconnect all users, click Disconnect All.

3. To send a message to a single user, highlight the user's name and click Send Message. Or click Send Message All to send a message to all connected users.
   The Send Message dialog box appears. Type the message and click Send or click Cancel if you decide not to send the message. You are returned to the Users dialog box.

4. Click Close to return to the ExtremeZ-IP Administrator dialog box.

Macintosh Users

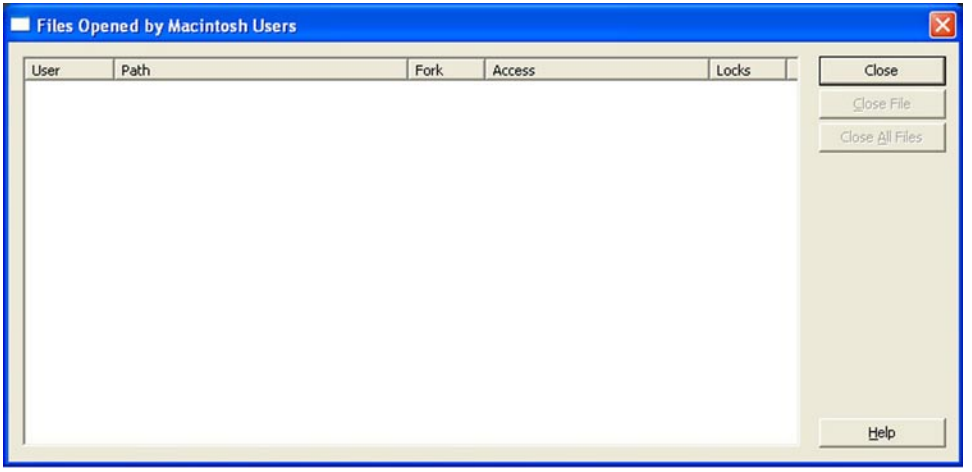
ExtremeZ-IP supports Microsoft networking domains, including Active Directory. When Macintosh users connect to the ExtremeZ-IP server, they enter their user name and password. ExtremeZ-IP authenticates this account against the primary domain of the Windows machine that it is running on. If this machine is not a member of a domain, the account must be a member of the local accounts that appear in User Manager. If the machine is a member of a domain, then the user name you give the Macintosh user must be either a member of the primary domain, the local accounts, or a trusted domain. You may specify to be authenticated against a specific domain by prefixing the user name with the domain name and a backslash (\). For example, to authenticate the user name Joe from the Marketing domain, in the user name portion of your AFP client logon enter these words.
MARKETING\joe

FILES

The Files Opened by Macintosh Users dialog box shows you which files are currently in use. Macintosh users may open the data or resource fork of a file.

To view the Files Opened by Macintosh Users dialog box, follow these steps.

1. From the ExtremeZ-IP Administrators dialog box, click Files.
   You can sort the list using any column by clicking on that column title.



   The dialog refreshes itself as new files are used by the Macintosh Users. The dialog box lists information about each file being used:

   - the name of the Macintosh user using the file
   - the name of the file being used
   - the fork being accessed by the user—either the Resource or Data fork
   - access information (for example, read access or write access)
   - a count for the number of locked sections on a file if a user has locked portions of that file for exclusive access which happens often for database programs.

2. It is better to disconnect the user from the Users dialog box rather than to close the user's files. However, you may select a file and choose Close File to close the selected file or choose Close All Files to close all files from the File dialog box.
   You should use caution when closing a file this way because a user may experience data loss and possibly a crash. Instead, disconnect a user using the Users dialog box; this automatically closes all files opened by that user.

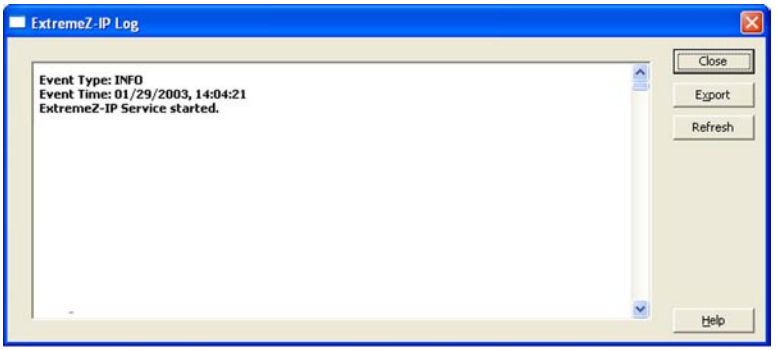
3. Click close to return to the ExtremeZ-IP Administrators dialog box.

LOG

Viewing the Log You can view a log of ExtremeZ-IP activities. The log tells you what connections have been made and other information.

To view the log, follow these steps.

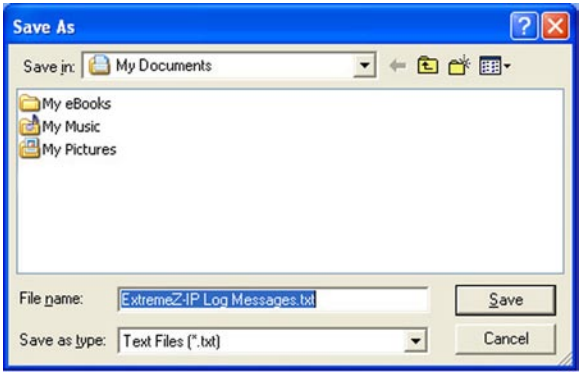
1. Click Log on the ExtremeZ-IP Administrators dialog box.
   The log appears. You can view the type of entry, the time the entry was made, and the message about the entry.



Exporting the Log You can export the Log in a tab-delimited text file for use in other programs. Once the log is exported to a text file you can import it to a spreadsheet or system designed to make use of the information.

To export the log using the Export button, follow these steps.

1. Display the Log and click Export.
   The Save As dialog box appears.



2. Click Save to save the log.

3. Click Close to return to the ExtremeZ-IP Administrators dialog box.

To export the log using the DOS command line, follow these steps.

1. Navigate in a DOS prompt to the folder where ExtremeZ-IP is installed.

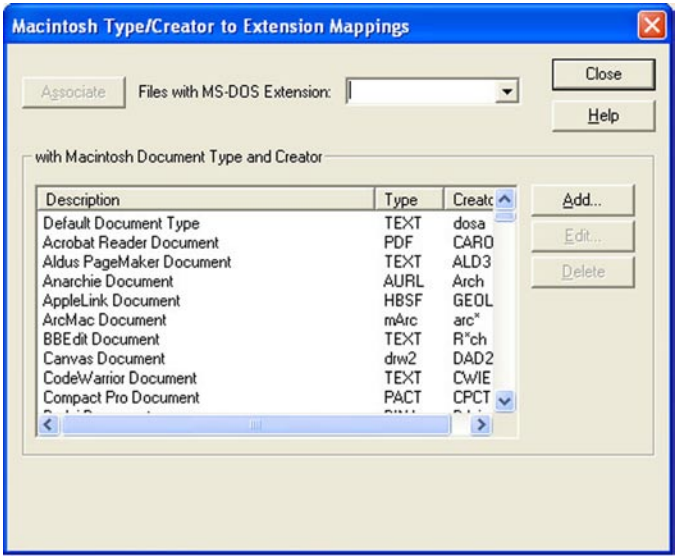
2. Type EZIPUTIL PRINT /EXPORT_LOG /PATH:fullpathoflog where fullpathoflog specifies the location and name of the log file that should be exported, such as C:\Logs\file.txt.
   See the included sample batch file Export_Print_Log.bat that came with ExtremeZ-IP.

Remapping Extensions

Macintosh programs use a document's type and creator to automatically launch particular applications from the Finder®. MS-DOS and Windows users normally do not have access to the Macintosh-specific type and creator information. ExtremeZ-IP allows you to automatically map MS-DOS extensions to particular type/creator combinations. For example, you can map Adobe® Acrobat documents, which have a PDF extension, to the Macintosh type "PDF" and creator "CARO." ExtremeZ-IP installs a number of default mappings for certain document types; you can change these at any time. You can create a new type and creator to assign to a document. You can edit and delete types and creators.

To associate files with a type and creator or to create new types and creators, follow these steps.

1. From the ExtremeZ-IP Administrator, click Settings, then click Types and Creators.
   The Macintosh Type/Creator to Extension Mappings dialog box appears.



You can associate MS-DOS file extensions with Macintosh types and creators, create new types and creators, and edit or delete types and creators.

To associate file extensions, follow these steps.

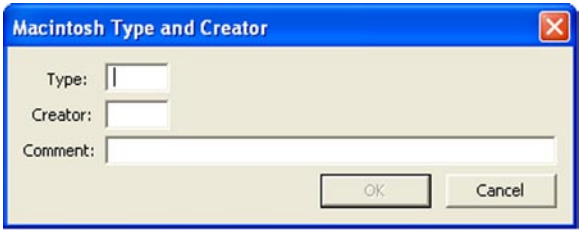
1. From the Files with MS-DOS Extension drop list at the top of the Macintosh Type/Creator to Extension Mappings dialog box, select a new extension.

2. From the list of types and creators, select the entry you want to remap.

3. Click Associate.
   The extension is associated with the selected type and creator.

To create a new type and creator, follow these steps.

1. Click Add on the Macintosh Type/Creator to Extension Mappings dialog box.
   The Macintosh type and Creator dialog box appears.



2. Fill out the dialog box to meet your specifications, then click OK to return to the Macintosh Type/Creator to Extension Mappings dialog box.
   The new type and creator are listed in the database.

To edit a type and creator's comments, follow these steps.

1. From the Macintosh Type/Creator to Extension Mappings dialog box, select an entry in the database and click Edit.
   The Macintosh type and Creator dialog box appears.

2. Change the comment; click OK to accept the changes and return to the Macintosh Type/Creator to Extension Mappings dialog box.

To delete a type and creator, complete this step.

From the Macintosh Type/Creator to Extension Mappings dialog box, select an entry in the database and click Delete.
The entry is removed from the database.

Troubleshooting

If you are having problems using ExtremeZ-IP, consult this section for a solution. In addition, you may check the Group Logic website www.grouplogic.com to access the Knowledge Base which contains the latest technical information about our products. See the Help section on page 9 or contact Group Logic support or your regional sales manager for assistance.

THE EXTREMEZ-IP SERVICE OR THE SERVICE FOR MACINTOSH IS FAILING.

If you are using both programs and one or both fails, check to see if you have used duplicate names for servers. Volumes for each service must have unique names or one or both programs may fail. See "Settings" on page 30 for information on configuring the ExtremeZ-IP server.

THE SERVER NAME DOES NOT APPEAR IN THE MACINTOSH CHOOSER.

ExtremeZ-IP clients on Mac OS 9 see a server name in their Chooser only if the AppleTalk protocol is installed on the Windows 2000 or 2003 machine and the client's connection to the server supports AppleTalk. Macintosh users can connect to a server, even if they cannot see the server name in the Chooser, by clicking AppleShare then Server IP Address in the Chooser and entering the server IP address or DNS name. See page 31 for more information.

RUNNING EXTREMEZ-IP AND SFM

By default, ExtremeZ-IP and SFM use different default names. SFM's default name is the name of the Windows computer; ExtremeZ-IP uses the name of the Windows computer and adds the suffix IP. If you use the default for SFM and ExtremeZ-IP, you can run ExtremeZ-IP and SFM on the same computer.

If you change the default names so that ExtremeZ-IP and SFM have identical names, either SFM or ExtremeZ-IP does not function properly. If SFM is started first, ExtremeZ-IP works but does not appear in the Chooser; ExtremeZ-IP logs an error in the Event Viewer. If ExtremeZ-IP is started first, SFM cannot start up because it cannot register on the AppleTalk network.

Using the Registry Keys

You can use Windows registry keys to change some settings in ExtremeZ-IP beyond what can be configured using the ExtremeZ-IP Administrator. You can view a full list of registry settings in Online Help accessible through the ExtremeZ-IP Administrator.

SETTING THE LOG FILE SIZE

By default, ExtremeZ-IP limits the size of the log file to 200 MB; however, you can change the file size using a registry key. When a line being written to the log passes the specified megabyte limit of log file size, that line is entered at the beginning of the log file. Before writing this line, ExtremeZ-IP writes a notice in the log alerting you to the fact that you are overwriting the beginning of the log. You can enable timestamps for log entries, to help you keep track of when the log is full and it is being overwritten.

To change the registry key to change the log file size, enter this in the registry.

\HKLM\SYSTEM\CurrentControlSet\Services\ExtremeZ-IP\Parameters4\DebugRefreshable\DebugLogLimit
: This is a DWORD key with value of x, when x is greater than zero it will enable limiting the size of the log file. The value of x is in megabytes. If no key is present, the default value is 200 MB.

ADDED SUPPORT FOR MACINTOSH STYLE PERMISSIONS

Enabling this feature will cause ExtremeZ-IP to limit the permissions on folders to an owner, a single group, "Everyone" and the SYSTEM user. See page 33 for information about permissions. The default behavior of ExtremeZ-IP (and Windows in general) is to allow any number of users and groups to have permissions to a particular folder. By default, changing group permissions from the Macintosh client will change permissions for the primary group only—any other groups with permissions to that folder will not be changed. Users that wish to restrict access to only the primary group should enable this feature.

This feature can be configured from the following registry entry
\HKLM\System\CurrentControlSet\Services\ExtremeZ-IP\Parameters4\NonRefreshable

Key Name	Default	Description
UseMacStylePermissions	off	Enables Mac style permissions — value of 1 to enable (DWORD key)

SHOW OR HIDE FOLDERS FROM VIEW

You may give permission to some users to work with folders that others cannot access. By default, all users see all folders, even though they cannot access some of the folders they see. Using a registry key, you can restrict the display of folders for a user so that a user sees only those folders for which they have at least read attributes privileges. The read attributes property does not imply the ability to read a file or the contents of a folder, but only to be able to see what the permissions and other attributes of the object are.

For folders for which a user does not have at least read attributes, enter this key in the registry

Key Name	Default	Description
\ HKLM \ System \ CurrentControlSet \ Services \ ExtremeZ-IP \ Parameters4 \ Nonrefreshable		
ShowInaccessibleFolders	on	Controls whether or not users are able to see folders for which they do not have at least "read attributes" privileges (DWORD key)

Configuring guest access for Windows XP and 2003

To support guest access when running under Windows XP and later operating systems, including Windows 2003, you much change a windows default security setting. Starting with Windows XP, the Anonymous Logon group is no longer a member of the Everyone group by default. This change was made by Microsoft because if system administrators did not realize that anonymous users were members of the Everyone group they might have inadvertently granted them access to resources only intended for authenticated users.

In order to enable guest access, ExtremeZ-IP requires that the Anonymous Logon group be a member of the Everyone group. For operating systems that do not support this behavior by default, a system-wide setting needs to be changed.

To change this setting, follow these steps.

1. Open Local Security Policy: Start > Settings > Control Panel > Administrative Tools > Local Security Policy.

2. Navigate to Local Policies -> Security Options

3 . Set the Network access: Let Everyone permissions apply to anonymous users setting to Enabled.

ExtremeZ·IP™

PRINT SERVER

THE EXTREMEZ-IP PRINT SERVER

ExtremeZ-IP Print Server

The ExtremeZ-IP Print Server provides support for IP-based printing from Macintosh computers. This allows Macintosh clients to print without using AppleTalk. Mac OS X clients set up printers using the Print Center to select the ExtremeZ-IP Printer Browser Module. Mac OS 9 clients set up printers using Choose IP Printer, an Apple menu item. In addition to these printing capabilities, three (3) Mac OS X clients or more if you purchased a license for more than three can share volumes as described in the ExtremeZ-IP File Server chapter.

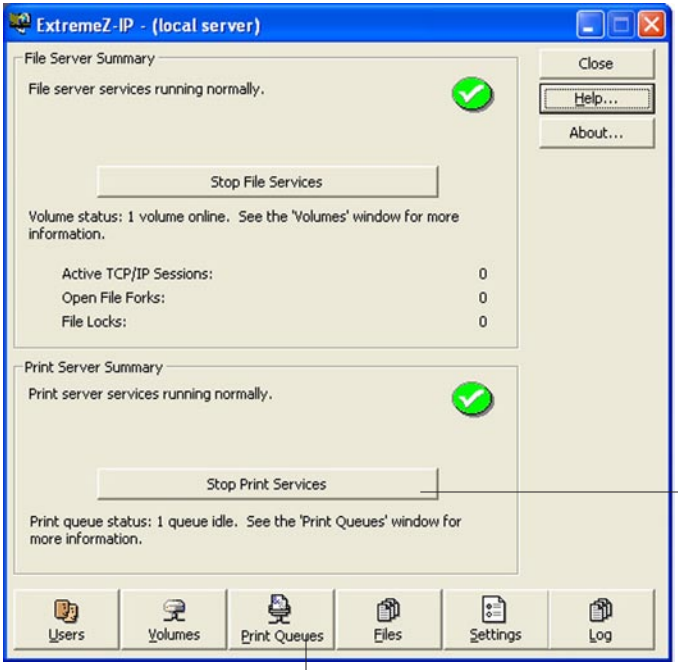
When you purchase and install ExtremeZ-IP Print Server, two programs are placed on the Windows server in a folder called ExtremeZ-IP Print Support. (1) an installer for the ExtremeZ-IP Printer Browse Module for Mac OS X clients and (2) an installer for Choose IP Printer for Mac OS 9 clients. You are given the option of sharing this volume during installation. Macintosh clients do not need to use either program to print to the ExtremeZ-IP Print Server, however, using it provides easy IP printing and makes it easy for Macintosh clients to find the ExtremeZ-IP Print Server using Bonjour (OS X), SLP (OS 9), or an IP address. You can set ExtremeZ-IP to allow Macintosh clients to download a PPD or force them to use the one you select.

After receiving a print job from a Macintosh, ExtremeZ-IP processes it using one of several processing methods, including Windows print queues, AppleTalk printers, LPR printers, and "hot folders" (special output directories where the job can be processed by additional software such as a RIP or OPI server). In addition, you can view the print jobs in progress, speed or delay processing of jobs, and delete jobs from the list. Macintosh clients can print to the ExtremeZ-IP Print Server using IP or AppleTalk.

The ExtremeZ-IP Print Server logs many aspects of the print jobs that your users have sent to the server: job name, user name that printed, time and date of printing, page size, number of pages, size of job in bytes, address of the computer that printed the job, and the name of the print queue used. This log can be displayed or exported automatically to a text file that can be imported into an accounting or other cost tracking system. If you purchase the ExtremeZ-IP Print Accounting Add-On, you can capture and track additional information of your choosing and require the Macintosh client to enter one or more billing codes you set up before printing to a queue. The accounting information is added to the log of the print job and can be imported into standard accounting and cost tracking systems. See page 73 for additional information on using the ExtremeZ-IP Print Accounting Add-On. See page 71 for information on viewing or retrieving the log.

Using ExtremeZ-IP Print Server

When you install ExtremeZ-IP Print Server, the ExtremeZ-IP Administrator window adds information about the Print Server actions and adds a Print Server tab to the Settings dialog box.



Start/Stop Print Services

Print Queues button visible when ExtremeZ-IP Print Server is installed

Set up print queues so that Macintosh clients can send print jobs to the server

INSTALLING THE EXTREMEZ-IP PRINT SERVER

You must be logged into Windows with Administrator privileges to install the ExtremeZ-IP Print Server. If you are upgrading a previous ExtremeZ-IP installation. See the section "Installing the ExtremeZ-IP Program" on page 12 for a step-by-step procedure for installing the Print Server.

Installing when you have a preexisting ExtremeZ-IP File Server If you install the Print Server or Print Accounting Add-on on a server that has a preexisting File Server installation, your File Server license is reset to the stand-alone Print Server limit of three (3) simultaneous users. To prevent this, reinstall the File Server at the same time you install any Print installations. Then, during the installation process, you are prompted for all relevant serial numbers and the appropriate user limits are set. Any previous file server volumes and settings are preserved.

The Print Server directory

When you install ExtremeZ-IP Print Server, the installer creates a directory called ExtremeZ-IP Print Server on an NTFS drive and gives you the option to share that directory for Macintosh clients with the ExtremeZ-IP File Server. If you share the directory, Macintosh clients can mount the volume based on the directory.

The ExtremeZ-IP Print Server directory includes Macintosh client installers for Mac OS X and includes a program called Choose IP Printer for Mac OS 9. You are given the option of sharing the installers during installation. Macintosh clients do not need to use either program to print to the ExtremeZ-IP Print Server, however, using one provides easy IP printing and makes it easy for Macintosh clients to find the ExtremeZ-IP Print Server using Bonjour (OS X), SLP (OS 9), or an IP address.

SETTING UP THE EXTREMEZ-IP PRINT SERVER

Before using ExtremeZ-IP Print Server, review the default settings and make any changes you wish. The Settings dialog box has four tabs: File Server Settings, Print Server Settings, Security Settings and Search Settings. See page 30 for information on the File Server, Security, and Search Settings. See the "ExtremeZ-IP Print Quick Start Guide" for additional information; it is available as a PDF in the folder with the ExtremeZ-IP program.

Network Settings

In the File Server Settings tab, decide which network protocols the server attempts to register with—AppleTalk, TCP/IP with SLP or TCP/IP with Bonjour—by placing a check in the appropriate checkboxes.

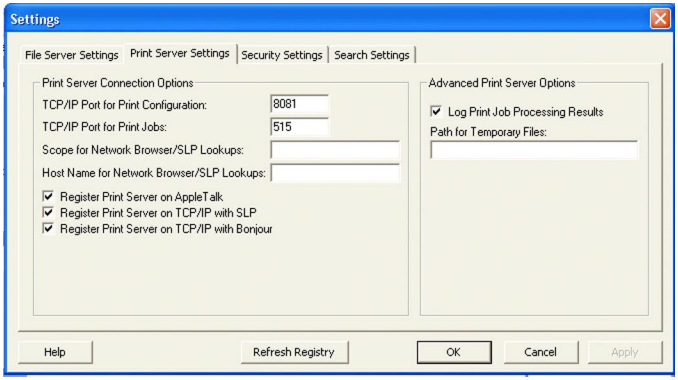
- When AppleTalk is selected, Mac OS 9 users can see volumes and print queues in the Chooser without having to specify the IP address, and Mac OS X users can see them in Connect to Server and Add Printer dialogs. To register the server on AppleTalk, the AppleTalk protocol must be installed on the 2000 server. Windows XP does not support AppleTalk. Note that if you use the Chooser (AppleTalk) to find print queues, you will print using AppleTalk, not TCP/IP.
- SLP allows Mac OS 9 users to see volumes and print queues in the Network Browser. Using Choose IP Printer to find print queues is the easiest way to setup TCP/IP print queues on Mac OS 9; this uses SLP

Print Server Settings

When you are using the ExtremeZ-IP Print Server, a Print Server Settings tab appears in the Settings window. From this tab you can set Print Server options.

To make changes to Print Server Settings, follow these steps.

1. From the ExtremeZ-IP Administrator window, click Settings.
   The Settings dialog box appears. Select the Print Server tab.



2. Changes you make to the Print Server Connection Options take effect immediately after you click the Apply or OK button.

   If you wish, you can change default port settings by typing different numbers in the appropriate boxes. The default TCP/IP Port for Print Configuration is used by the Choose IP printer program when creating a desktop printer on a Macintosh client. The default TCP/IP Port for Print Jobs is the LPR port which the ExtremeZ-IP print server uses to receive print jobs from a Macintosh client.

   As with the File Server, you may configure SLP options such as Scope/Neighborhood and host name by typing the entries. These entries appear as a Neighborhood and a Server Name, respectively, in the Choose IP Printer main window.

   As an option, except on Windows XP, you may allow Macintosh users to print over AppleTalk. When you check the Register Server on AppleTalk Network checkbox, the print queues you create show up on the Chooser on the Macintosh. This allows Macintosh users to use the print queues over AppleTalk which is slower, but offers an alternative to installing the Choose IP Printer program on the Macintosh.

   You may register the print server on TCP/IP with SLP or Bonjour. You must have TCP/IP with Bonjour on if you want Mac OS X clients to see ExtremeZ-IP printers using Bonjour.

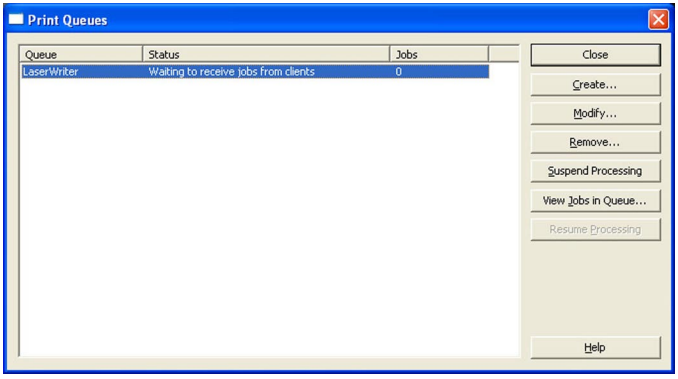
3. Make Advanced Print Server Options, if you wish.
   Check the checkbox for Log Print Job Processing Results to keep a log of job processing. If you wish, specify the location for storing temporary files; otherwise ExtremeZ-IP uses the default system temporary directory.

Setting up Print Queues

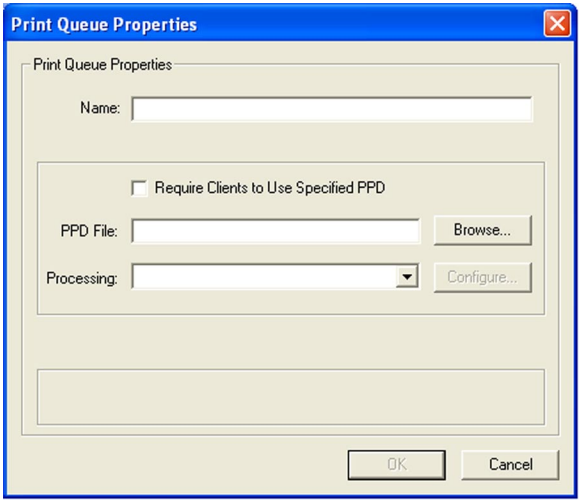
A print queue is a virtual printer that Macintosh users can use. When Macintosh users print files to one of your printers, the resulting print job is delivered to your server and can be tracked and processed there.

To create a list of print queues, follow these steps.

1. On the ExtremeZ-IP Administrators dialog box, click Print Queues.
   The Print Queues dialog box appears. It lists the print queues available to Macintosh clients. You can sort the list of print queues by clicking on a column title.



2. Click Create to define a print queue based on a printer or to folder/specified directory which you want to make available to Macintosh clients.



If you have installed the Print Accounting Add-on, you see a checkbox allowing to you to Require Client Validation Codes. See page 73 for information about setting up print accounting for a print queue.

3. Type a name for the print queue you are setting up.
Queue names must be unique; you cannot have two queues with the same name.

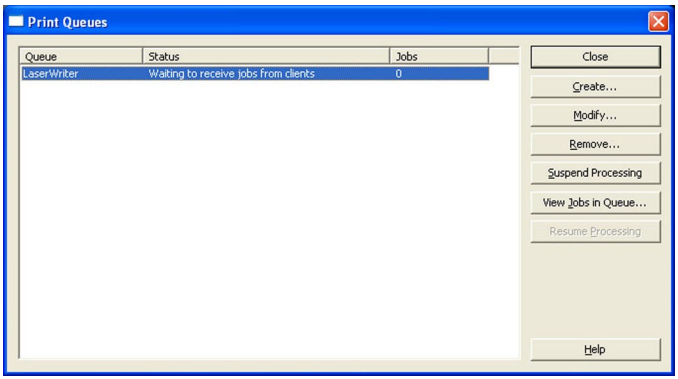
4. If you wish, you can place and choose a PostScript Printer Definition (PPD) file on the server that Macintosh clients can download.
You may associate a PPD with each queue. If you provide a PPD file for the print queue, Macintosh clients are able to download and configure the printer for use on their desktop without needing a PPD on their machine ahead of time. The ExtremeZ-IP server includes an option to automatically download the specified PPD to Mac users when they create printers. If possible, you should obtain and use PPD files that were created on a Macintosh, since they include additional information such as special icons to deliver the user experience that Macintosh users expect. PPDs are used on the Macintosh when creating printers. Specifying a PPD when you set up a queue makes it available for download but its presence on the server does not affect printing.

You can type the path or use the Browse button to search for the correct PPD. These files must be on a disk accessible by the server.

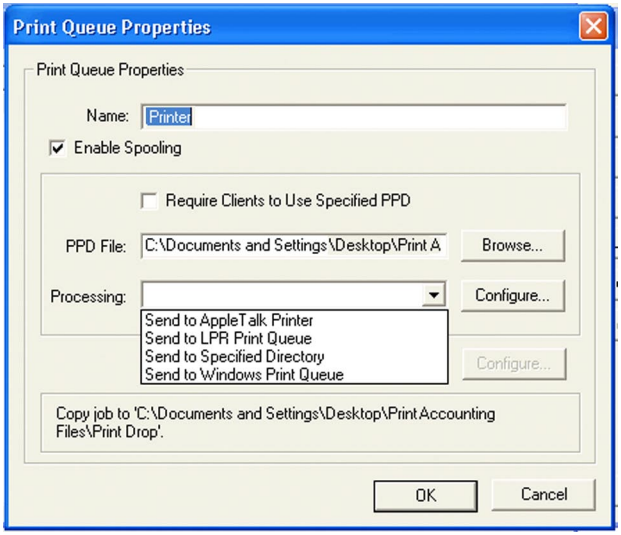
5. Choose the type of processing method you wish to set up.
A print queue is a virtual printer that Macintosh users can use. When Macintosh users print files to one of your printers, the resulting print job is delivered to your server and can be tracked and processed there. This section explains how to configure settings for the three main types of print queues: Windows, LPR, and Directory (Hot Folder).

Creating a Windows Print Queue Launch the ExtremeZ-Ip Administration, then follow these steps.

On the ExtremeZ-IP Administrators dialog box, click Print Queues.
The Print Queues dialog box appears.

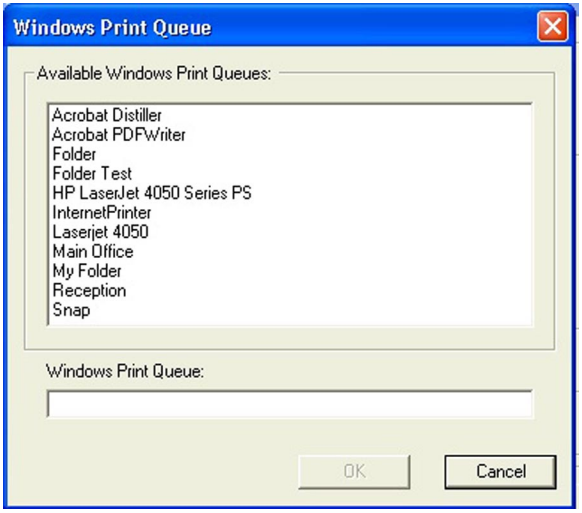


Click Create to define a print queue.



If you have installed the Print Accounting Add-on, you see a checkbox allowing to you to Require Client Validation Codes. See the ExtremeZ-IP User Manual for information about setting up print accounting for a print queue.

In the Processing pull down menu, select Send to Windows Print Queue..
You should see a list of Windows printers which already exists on the Server. If this list is empty, you must create a windows Printer from the windows Print Wizard. See the Appendix "Using the Windows Print Wizard to Define a Windows Printer".



4. Type a name for the print queue you are setting up.

Queue names must be unique; you cannot have two queues with the same name.

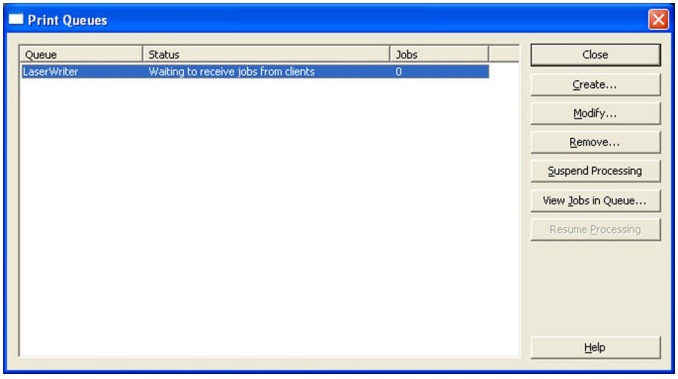
If you wish, you can place and choose a PostScript Printer Definition (PPD) file on the server that Macintosh clients can download.

You may associate a PPD with each queue. If you provide a PPD file for the print queue, Macintosh clients can be forced to download and configure the printer using the PPD you specify.

Creating an LPR printer queue Launch the ExtremeZ-Ip Administrator, then follow these steps.

On the ExtremeZ-IP Administrators dialog box, click Print Queues.

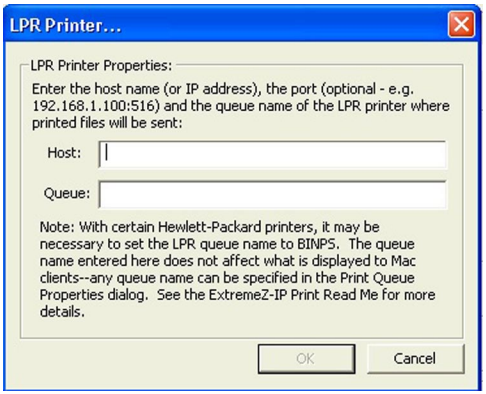
The Print Queues dialog box appears.



Click Create to define a print queue.

If you have installed the Print Accounting Add-on, you see a checkbox allowing to you to Require Client Validation Codes. See the ExtremeZ-IP User Manual for information about setting up print accounting for a print queue.

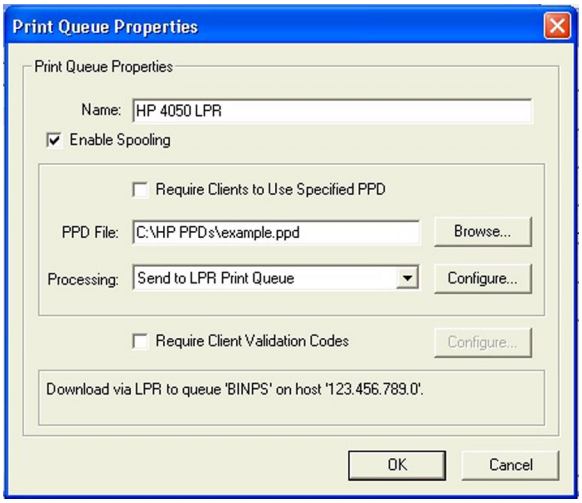
In the Processing pull down menu, select Send to LPR Print Queue. Choose Send to LPR Printer Queue, you see the LPR Printer dialog box.


LPR Printer...
LPR Printer Properties:
Enter the host name (or IP address), the port (optional - e.g. 192.168.1.100:516) and the queue name of the LPR printer where printed files will be sent:
Host:
Queue:
Note: With certain Hewlett-Packard printers, it may be necessary to set the LPR queue name to BINPS. The queue name entered here does not affect what is displayed to Mac clients--any queue name can be specified in the Print Queue Properties dialog. See the ExtremeZ-IP Print Read Me for more details.
OK
Cancel

Note When printing using an LPR Printer Queue to certain Hewlett-Packard® printers it may be necessary to set the queue name to BINPS in the LPR configuration dialog to properly handle print jobs that contain binary information.

Type a name for the print queue you are setting up.

Queue names must be unique; you cannot have two queues with the same name.

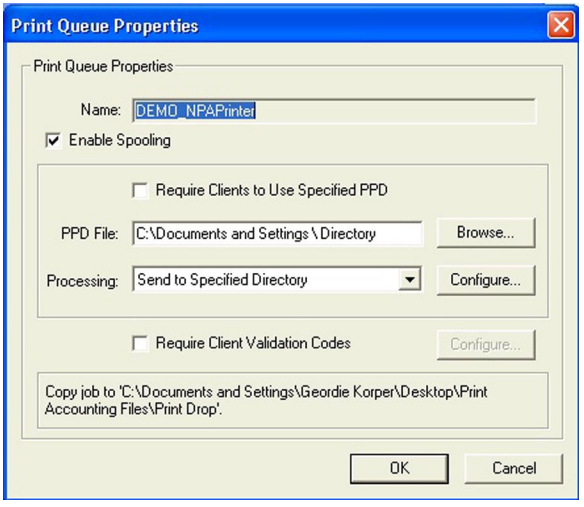


Creating a Specified Directory You can create a print queue which sends files to a specified directory or hot folder. You may choose a folder which is local or on the network. For network locations you may map the network drive or use a UNC Path. Launch the ExtremeZ-IP Administrator and follow these steps.

On the ExtremeZ-IP Administrators dialog box, click Print Queues. In the Processing pull down menu, select Send to Specified Directory.

Select the folder where you would like your print jobs to land.

Type a name for the print queue you are setting up. Queue names must be unique; you cannot have two queues with the same name.



Creating an AppleTalk Printer If you choose Send to AppleTalk Printer, you see the AppleTalk Printer dialog box.

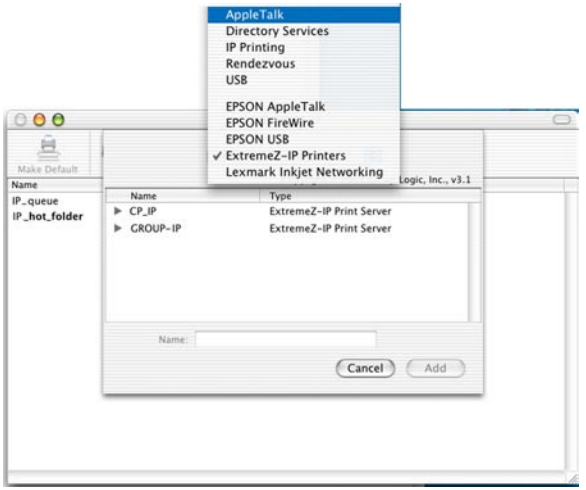
Type the zone in which the printer is located, or an asterisk (*) if you do not have zones on your AppleTalk network, and the name of the printer. You can click the Browse button to search for the printer on your network.

When you return to the Print Queues dialog box, the print queue is listed.

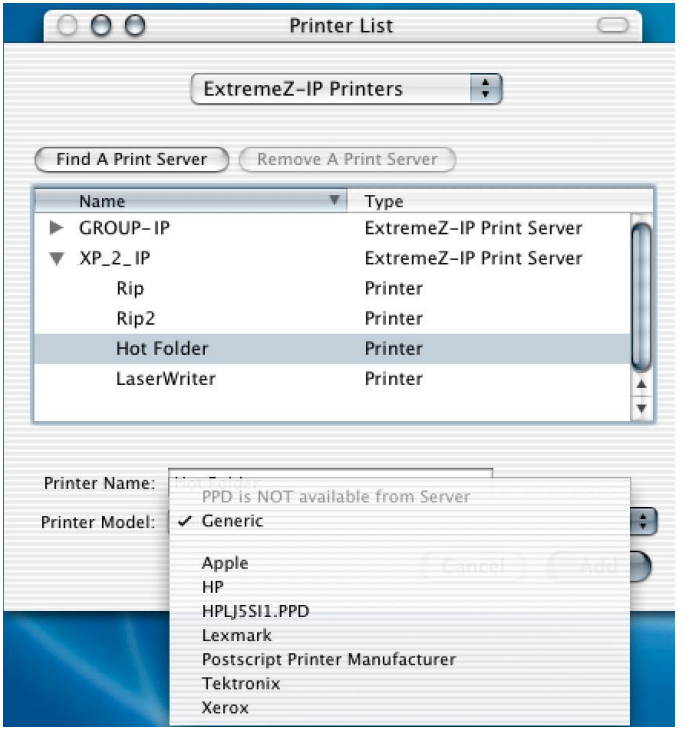
PRINTING FOR MACINTOSH CLIENTS

To use ExtremeZ-IP printing, Macintosh clients follow steps for their operating system. Once you add print queues to the Print Queues dialog box, Macintosh clients can print to any print queue. Installers for Macintosh clients are copied onto your NTFS disk when you install ExtremeZ-IP Print Server. Macintosh clients copy the one they need to their computers or they can run it off of the server. Apple Remote Desktop can be used to deploy the installer packages to Macintosh computers.

Mac OS X clients, once they have installed the ExtremeZ-IP Printer program, can find the print queues by choosing ExtremeZ-IP Printers on the Print Center Print List pop-up. You must have selected Bonjour and/or AppleTalk as a Print Server Connection Option when you set up the ExtremeZ-IP Administrator (see page 67) and it must be routable on your network. If Macintosh clients cannot see the ExtremeZ-IP server using Bonjour, they can specify it in the IP Address field.

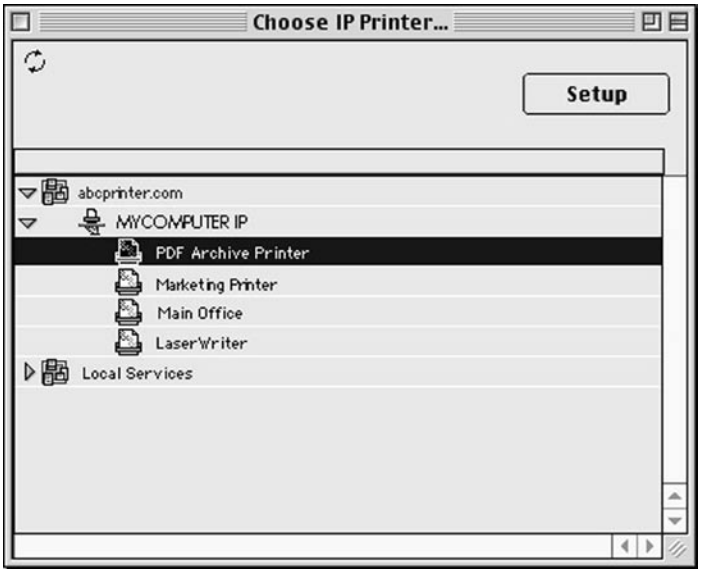


After choosing ExtemeZ-IP Printers on the pop-up list, a list of the ExtremeZ-IP Printers on the network appears.



Select the PPD you want to use. If the Server provides a PPD that the Macintosh client must use, the following pop-up is displayed.

Mac OS 9 clients, once they have installed the Choose IP Printer program, find the ExtremeZ-IP printers by using Choose IP Printer on the Apple menu instead of the Macintosh Chooser to set up desktop printers.



To modify a print queue, follow these steps.

1. To modify a print queue, highlight an item on the Print Queues dialog box and click Modify. The Print Queue Properties dialog box appears. The dialog box gives the configuration information of the print queue. Use the dialog to reconfigure the print queue. You cannot change the name.

2. Click OK to return to the Print Queues dialog box.

To delete an item from the Print Queues list, follow this step.

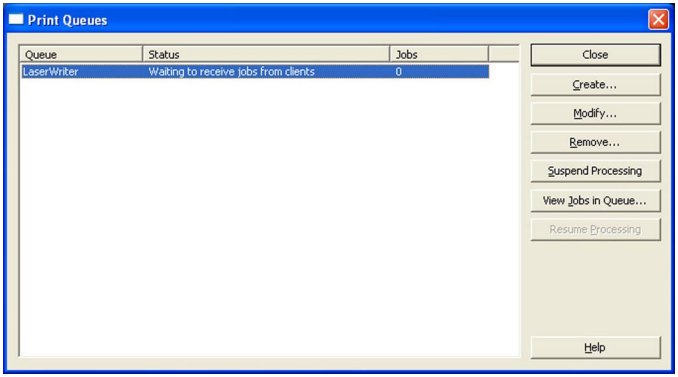
Highlight an item on the Print Queues dialog box and click Remove.

CONTROLLING THE PROCESSING OF JOBS

You can control the processing of jobs sent to the ExtremeZ-IP server by Macintosh users. You can suspend processing of all jobs in a print queue and a particular job in a print queue and resume processing when you want. In addition, you can control which jobs are processed first and delete jobs, if you wish.

Suspending and Resuming To suspend and resume processing on a print queue, follow these steps.

1. On the ExtremeZ-IP Administrators dialog box, click Print Queues.
   The Print Queues dialog box appears. It lists the print queues available to Macintosh clients.



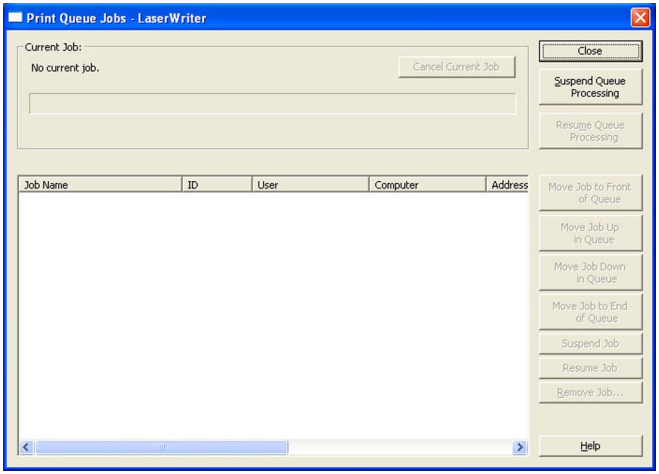
2. On the Print Queues dialog box, highlight a print queue and click Suspend Processing.
   Processing of all jobs on that print queue is suspended.

3. To resume printing on a print queue, highlight the print queue in the Print Queues dialog box and click Resume Processing.

Viewing and Managing Print Jobs You can view and manage jobs being processed in the Print Queue Jobs dialog box—for one or more print queues at the same time. To see the jobs being processed in a print queue, follow these steps.

1. On the ExtremeZ-IP Administrators dialog box, click Print Queues.
   The Print Queues dialog box appears. It lists the print queues available to Macintosh clients.

2. Highlight a print queue and click View Jobs in Queue.
   The Print Queue Jobs dialog box appears; it lists the jobs being processed. When a job is being processed, you see the progress indicator and the name of the job being processed.



3. Before changing the processing order of jobs, stop processing on the print queue by clicking Suspend Queue Processing.
   The job being processed is not affected; it continues to process.

4. To control a job in the queue, highlight it and click the button you wish—Move Job to Front of Queue, Move Job Up in Queue, Move Job Down in Queue, Move Job to End of Queue, Suspend Job, Resume Job or Remove Job.

5. When you are finished, click Resume Queue Processing.

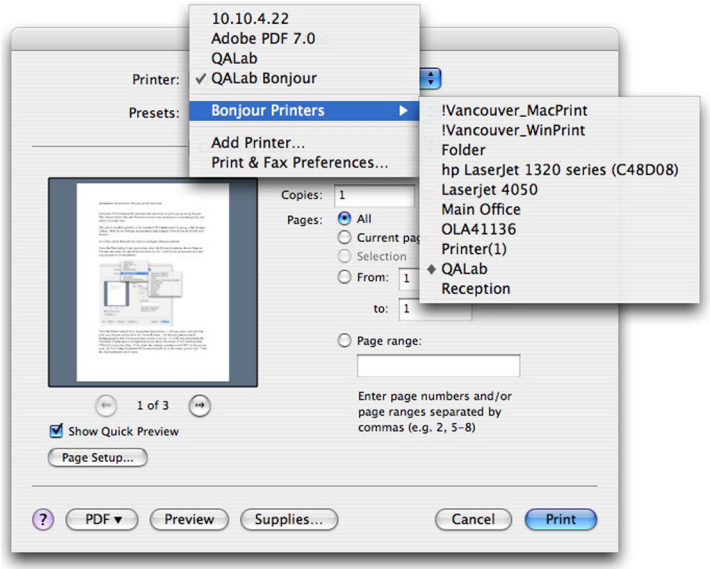
Setting up Bonjour printers

ExtremeZ-IP Print Server advertises all print queues using Bonjour automatically. Macintosh and Windows clients can set up and print to Bonjour printers quickly and easily in a single step. Once you select a printer by either method, it is available as an installed printer in the print dialog. You do not have to setup your Bonjour printer each time you want to print to it.

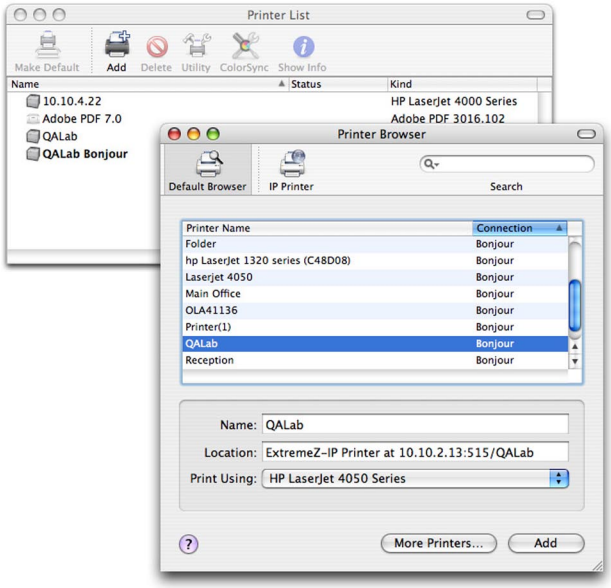
Setting up Macintosh client printers using Bonjour

On a Macintosh connected to an ExtremeZ-IP network, you can configure a Bonjour printer on Mac OS 10.4, Tiger, from the Print dialog of any application or from the Printer Setup Utility.

Choosing a Bonjour printer from any application Choose Print from any application on Mac OS 10.4, Tiger. From the Printer dropdown menu, choose Bonjour Printers, and select the desired printer from the list. The printer is set up automatically and you can print to it immediately.



Setting up a Bonjour printer from the Printer Setup Utility Open the Printer Setup Utility in Mac OS 10.4, Tiger, from the Utility folder located in the Applications folder. Choose Add and pick your Bonjour printer from the Printer Browser. All Bonjour printers can be distinguished by their Connection type, shown in the list. If a PPD was specified in the ExtremeZ-IP print queue configuration on the server, ExtremeZ-IP will send a printer PPD hint to the client Mac. If the client Mac already contains a valid PPD for the printer type, the Print Using dropdown is set to the correct printer type automatically. Click the Add button.



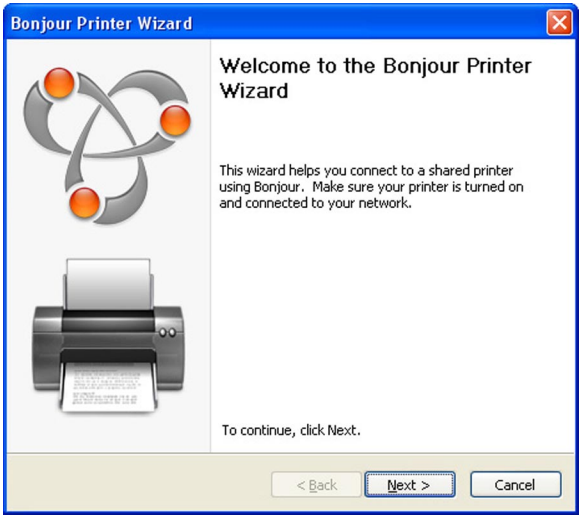
Note that from the Printer Setup Utility in Mac OS 10.3 Panther, you must choose the printer type "Rendezvous" in order to view and select Bonjour printers.

Setting up Windows client printers using Bonjour

To set up a Bonjour printer from Windows, first, install Apple Bonjour for Windows, available at: http://www.apple.com/support/downloads/bonjourforwindows102.html Once installed, run the Bonjour Printer Wizard.

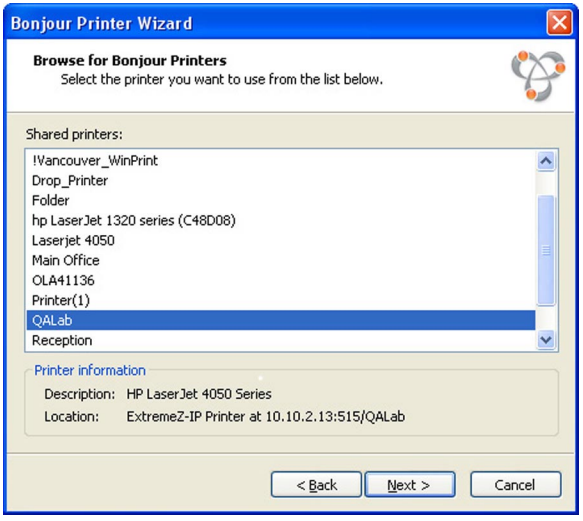
1. Run the Bonjour Printer Wizard.

   The Welcome to the Bonjour Printer Wizard dialog box appears.

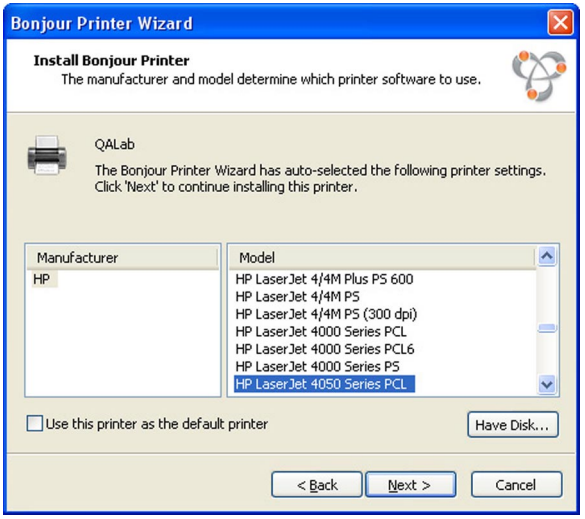

Bonjour Printer Wizard
Welcome to the Bonjour Printer Wizard
This wizard helps you connect to a shared printer using Bonjour. Make sure your printer is turned on and connected to your network.
To continue, click Next.
< Back
Next >
Cancel

2. Click Next.

   The Browse for Bonjour Printers dialog box appears.

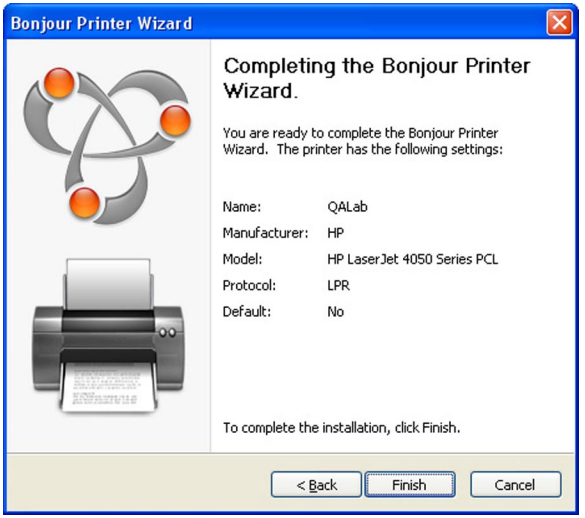


3. Select the printer you would like to install, then, click Next.
The Install Bonjour Printer dialog box appears.


Bonjour Printer Wizard
Install Bonjour Printer
The manufacturer and model determine which printer software to use.
QALab
The Bonjour Printer Wizard has auto-selected the following printer settings.
Click 'Next' to continue installing this printer.
Manufacturer
HP
Model
HP LaserJet 4/4M Plus PS 600
HP LaserJet 4/4M PS
HP LaserJet 4/4M PS (300 dpi)
HP LaserJet 4000 Series PCL
HP LaserJet 4000 Series PCL6
HP LaserJet 4000 Series PS
HP LaserJet 4050 Series PCL
Use this printer as the default printer
Have Disk...
< Back
Next >
Cancel

If a PPD was specified in the ExtremeZ-IP print queue configuration on the server, ExtremeZ-IP sends a printer driver hint to the Windows client. If the Windows client already contains a valid driver for the printer type, the printer manufacturer and model should be automatically selected.

4. If a PPD was not selected automatically, select the appropriate manufacturer and model and click Next.



5. On the final dialog, confirm your settings and click Finish.
The printer you selected is available as a standard Windows printer.

To disable Bonjour printer use

If you wish, you can disable the automatic advertisement of Bonjour printers globally.

1. From the ExtremeZ-IP Administrator, click the Settings button. On the Settings dialog box, click the Print Server Settings tab.

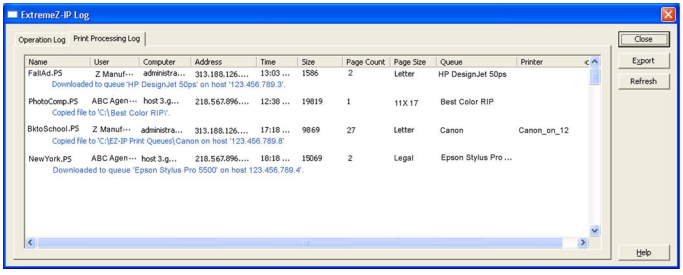
2. On the Print Server Settings tab, remove the check from the Register Print Server on TCP/IP with Bonjour checkbox.
   ExtremeZ-IP stops advertising Bonjour printers until this option is re-enabled.

Print Log

You can view a log of ExtremeZ-IP activities. The log tells you what connections have been made and other information.

To view the log, follow these steps.

1. Click Log on the ExtremeZ-IP Administrators dialog box. Click the Print Processing Log tab to display it.
   The Print Processing log contains standard printing information. You can sort the log by any column by clicking on the column title; clicking the column title a second time toggles the sort between ascending and descending.

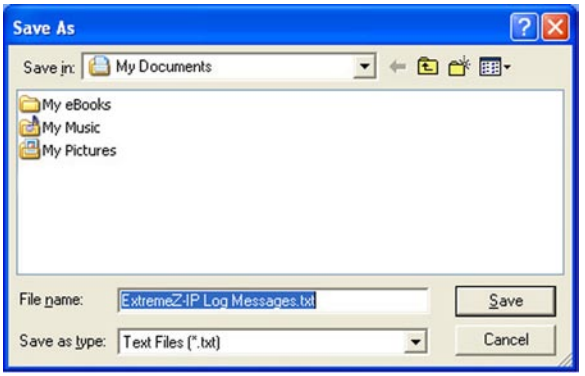


   If you have purchased and installed the optional Print Accounting Add-on and required Macintosh users to fill out code fields before printing, these are displayed in the Print Processing log. See the next chapter for information about the Print Accounting Add-on.

   You can export either Log in a tab-delimited text file for use in other programs. Once the log is exported to a text file you can import it to a spreadsheet or system designed to make use of the information.

To export the log using the Export button, follow these steps.

1. To export a Log, display its tab and click Export.
   The Save As dialog box appears.



2. Click Save to save the log. If you export the printing jobs, the file is named ExtremeZ-IP Print Jobs.txt.

3. Click Close to return to the ExtremeZ-IP Administrators dialog box.

To export either log using the DOS command line, follow these steps.

1. Navigate in a DOS prompt to the folder where ExtremeZ-IP is installed.

2. Type EZIPUTIL PRINT /EXPORT_LOG /PATH:fullpathoflog where fullpathoflog specifies the location and name of the log file that should be exported, such as C:\Logs\PrintAccounting.txt.
   See the included sample batch file Export_Print_Log.bat that came with ExtremeZ-IP.

To configure the ExtremeZ-IP server to add each new print log entry to a specified text file, follow these steps.

1. Add the following in the registry.
   \HKLM\SYSTEM\CurrentControlSet\Services\ExtremeZ-IP\Parameters4\Refreshable

2. Add a String Value (REG_SZ) named PrintAccountingLogFilePath

3. Set the value to the full path where you want the logs (e.g., C:\Logs\Log.txt)

Print Accounting Add-On

The ExtremeZ-IP Print Accounting Add-On provides additional choices for ExtremeZ-IP Print Support. The Add-On allows you to capture, validate and track cost accounting information with each print job as it is printed by a user. Information obtained through Print Accounting Add-On is logged with other information in the Print Processing log. You can use the print account information for these and other tasks:

- allocate proofing costs between clients and jobs
- track usage of shared printing resources, and assign costs correctly to departments and jobs
- track the use of printers between employees, students, or projects.
- ensure that only authorized users can print to certain printers

You can configure print queues to require Macintosh users to enter accounting "codes" before accepting jobs from them. You decide how many accounting codes are required for each print queue, the names of the codes, and whether the codes are optional or required. When codes are required, Macintosh users cannot print a job until codes are entered. You may allow clients to browse a list of valid accounting codes, or pick from the most recently used codes on their computer if you wish.

Each print accounting code is associated with a text file that contains valid codes and descriptions. For example, an employee number/name (2312, Jane Smith), or project number/name (Q98331A, Mockup for Acme Corp Annual Report). When a client prints to a queue, they are prompted to enter the print accounting codes based on the configuration on the server. Validation is performed against this text file when the client prints, so you can update these codes and descriptions on the server without having to reconfigure the client. ExtremeZ-IP does not require clients to mount file server volumes to perform Print Accounting.

Setting up print accounting

Print Accounting supports Macintosh clients using OS X 10.2.3 or later. You must modify a PPD for use with Mac OS X before using print accounting. See page 76 for directions for modifying a PPD. Print accounting is supported via TCP/IP or AppleTalk on Mac OS X. It is not available when printing from applications running in Classic mode under Mac OS X.

ExtremeZ-IP also supports an option called Direct Printing in which print accounting can be routed through the ExtremeZ-IP server, while Macintoshes send job directly to a printer that supports the

CUPS™ (Common UNIX Printing System) printing architecture. For more information about this option, contact Group Logic at 1.703.528.1555.

CREATING A LIST OF CODES FOR CUSTOMERS

To use Print Accounting, first, create text files containing the codes and descriptions for each field.

Note: If the codes already exist in a system, such as an accounting system, you may export them and make any adjustments necessary to conform to the ExtremeZ-IP Printing format.

1. For each print queue for which you want to use print accounting, plan the number of code fields you want to use from one to five.

2. Create a separate file for each code field containing the code and its description, separated by a tab, in a word processor or text editor. If you use a word processing program, you must save the file as a text file.
   For example, enter the information this way for employee identification:
   123 <tab> Sue <return>
   124<tab> Jim

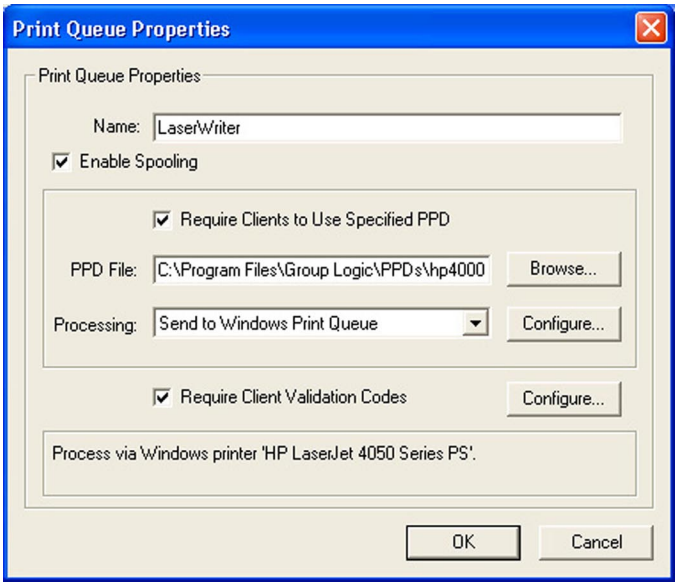
   Note: If you change the code text files, ExtremeZ-IP does not reload them automatically. To reload the codes after making changes, restart the ExtremeZ-IP service or use the command line argument EZIPUTIL.EXE PRINT /REFRESH_CODES

SETTING UP A PRINT QUEUE TO PROVIDE PRINT ACCOUNTING INFORMATION

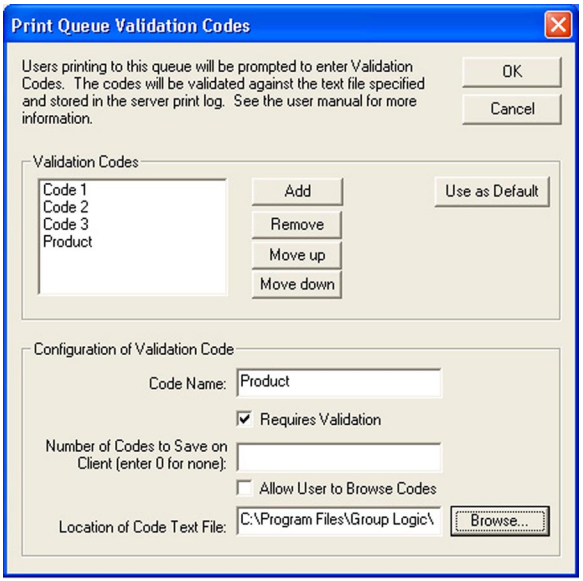
Once you define your codes and code descriptions, assign them to print queues as you set print queues up or modify them.

1. In the ExtremeZ-IP Administrator, click Print Queues.
   The Print Queues dialog box appears. It lists the print queues available to Macintosh clients.

2. Open a Print Queue Properties dialog box to modify a print queue you have already defined or click Create to create a new print queue.
   You set up validation codes for each print queue; every Macintosh client using that Print Queue enters the same fields.



3. Check the checkbox Require Client Validation Codes.
   The Print Queue Validation Codes dialog box appears.


Print Queue Validation Codes
Users printing to this queue will be prompted to enter Validation Codes. The codes will be validated against the text file specified and stored in the server print log. See the user manual for more information.
OK
Cancel
Validation Codes
Code 1
Code 2
Code 3
Product
Add
Remove
Move up
Move down
Use as Default
Configuration of Validation Code
Code Name: Product
Requires Validation
Number of Codes to Save on Client (enter 0 for none):
Allow User to Browse Codes
Location of Code Text File: C:\Program Files\Group Logic\
Browse...

4. To add the first code, use the Configuration of Validation Code section. Type a new name, if you wish.
   This name appears next to the field on the Macintosh Print dialog box.

If you want to require the Macintosh user to fill in a field before printing, check the checkbox Requires Validation.
Use fields that do not require validation for information such as comments. When you require validation, a star appears next to the code name in the Macintosh Print dialog box; the Macintosh user is notified that they must enter information in this field that corresponds to the list of acceptable codes in order to print the job.

To provide a pop-up menu for the Macintosh user of codes the user has recently used, type a number of codes to display in the text box Number of Codes to Save on Client (enter 0 for none).

If you want the Macintosh user to be able to browse the code list, place a check in the checkbox Allow User to Browse Codes
Type the Location of the Code Text File or click Browse to locate it. When you click Browse, locate the folder in which you placed the text file you created. Select the appropriate code text file and click OK.

5. Click OK to save the entered code or click Add to add additional code fields. Highlight a code and use the Remove, Move up or Move down buttons to rearrange the list, as you wish. The Add button does not add a new code until you have supplied the location of the Code Text File for the previous code.

Using Mac OS X with print accounting On Mac OS X, the PPD selected for each print queue must be modified to include additional information, including the IP address of the server. A sample PPD called EZIPSample.PPD is included with the software.

1. Find the PPD you want to modify.
   Mac PPDs are normally in the folder Library/Printers/PPDs/Contents/Resources/en.lprog.

2. Default PPDs are compressed in the gzip format. Expand one using StuffIt Expander or the gunzip command from a terminal window.

3. Edit the uncompressed PPD in a text editor.

4. Copy the following lines to the PPD from the ExtremeZ-IP sample PPD.

```
*%**************************************************************************
*%          ExtremeZ-IP Print Accounting CUPS Filter
*%**************************************************************************
*cupsFilter:    "application/vnd.cups-postscript 0 EZIP_filter"
*EZIP_Print_Accounting_IP:                "192.168.1.5"
*EZIP_Print_Accounting_Queue_Name:"My Queue Name"

*%**************************************************************************
*%          ExtremeZ-IP Print registering UI element for plugin invocation
*%**************************************************************************
*OpenUI *EZIPValidationRequired/ValidationRequired: Boolean
*DefaultEZIPValidationRequired: False
*EZIPValidationRequired True/Required: "/"
*EZIPValidationRequired False/Not Required: "/"
*?EZIP_Validation_Required: "query code"
*CloseUI: *EZIPValidationRequired
```

5. Modify the line EZIP_Print_Accounting_IP to be the TCP/IP address of the ExtremeZ-IP server.

6. Modify the line EZIP_Print_Accounting_Queue_Name to be the name of the queue as it is specified in the ExtremeZ-IP Administrator.

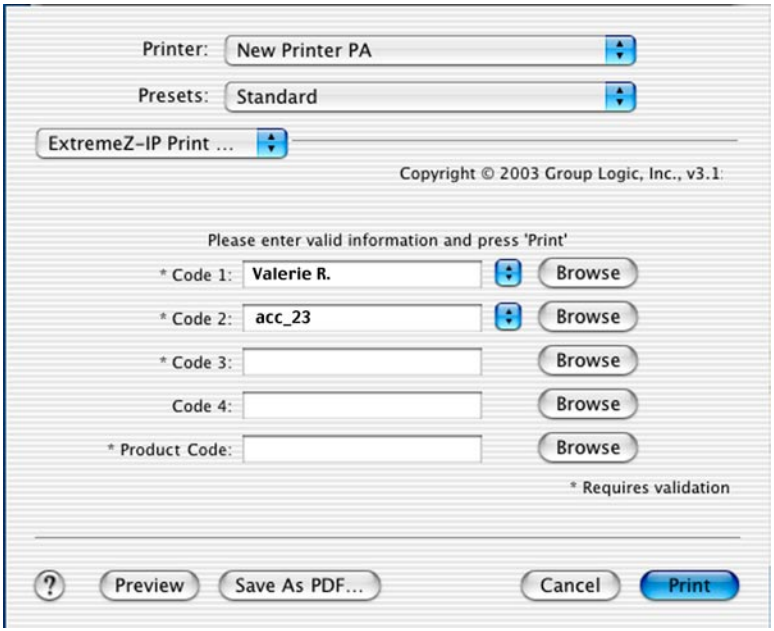
7. Modify the NickName of the PPD. There should be a line that starts *NickName: This is the name that will appear when selected during creation of a desktop printer. If you don't modify the NickName and, instead, leave the original compressed PPD installed, you will not be able to select the modified one.

8. Save the PPD from the text editor, with a .ppd extension. The standard TextEdit application will ask you if you want to append a .txt extension. Click Don t Append. Do not re-compress the PPD.

9. Provide the PPD for each Mac by sending the new PPD or by placing it on the ExtremeZ-IP server and configuring the print queue to make it available for download to Mac users.

Directions for Macintosh Users When a Macintosh user prints from a program and sends the job to a print queue to which you have assigned codes, their Print dialog box displays the information you assigned in the step above.

1. Print to a Server print queue.
   When the ExtremeZ-IP Administrator has assigned print accounting to that print queue, a special dialog box appears as in this example.



2. Type in the information requested by the Server.
   In the example above, the ExtremeZ-IP Administrator has provided Browse buttons for each field allowing the Macintosh user to browse the list of codes for that field. Four of the five fields have astericks (*) before their names; these fields must be completed before the job can be sent; those without astericks are optional.

3. Click Print to send the job to the selected Server print queue.

ExtremeZ-IP™

APPENDIX

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ExtremeZ-IP™

INDEX

Index

A

about this document 8
access to your computer 33
Active Directory 43
Adjust Macintosh Permissions dialog 41
Administrator dialog box 28
advanced print server options 56
Advanced Volume Properties dialog box 18, 39
AFP 8
allow guests to connect 32
AppleTalk 31, 55
  installing 19
  printers 63
Apple File Protocol 8
assigning
  an AppleTalk printer 63
  an LPR Print Queue 61
  a specified directory 62
  a Windows Print Queue 58

B

Bonjour printers 8
  disabling 71
  in the Print Server directory 55
  setting network protocol 31
  setting up for Macintosh 67
  setting up for Windows 69

C

cache 32, 35
Catalog Search Operations 34
changing folder permissions 33
Chooser, not displaying server 19
Choose IP Printer 65
codes
  setting up for print accounting 74
configuring guest access
  Windows XP and 2003 50
conflicts/ExtremeZ-IP and SFM 48
connections options 56
controlling job processing 66
copy files default 32
creating volumes 37
creators 46

D

deleting extensions 48
deleting jobs from a print queue 67
dialog box
  Adjust Macintosh Permissions 41
  Administrator 28, 44
  Advanced Volume Properties 18, 39
  Files 44
  Files Opened by Macintosh Users 44
  File Server Settings 30
  Log 45
  Print Queues 57

Print Queue Jobs 66
Print Queue Properties 57, 59
Print Server settings 55
Remote Administration 29
Save As (log) 45
Search Settings 34
Security Settings 32
Settings 30
Type/Creator, Extension Mappings 46
Users 42, 43
Volumes 16, 37
Volume Properties 38
DNS name 30
domain 43

E

editing extensions 47
email address 9
encrypted logins 33
exporting the log 45
ExtremeZ-IP
clustering 21
remote administration 29
removing 18
running multiple instances 21
starting and stopping 27
EZIPUTIL.EXE. 28

F

File, Stop/Start Services 28
files and folders permissions 41
Files dialog box 44
Files Opened by Macintosh Users dialog box 44
File Server Settings dialog box 30
folders, properties of 41

G

getting started 27
guests
allowing 32
on Windows XP and 2003 50

H

help 9
hiding folders from view 50
home directory 17, 39

I

Indexed File Search 35
index cache size 35

J

job processing, controlling 66

K

Kerberos 19
description 19
Macintosh requirements 21
server setup 20

L

limiting number of users 39
log
exporting 45
file server 45
print server
copying to a text file 72
options 56
Log dialog box 45
log file size, setting 49
LPR port 56
LPR Printer Queue 61

M

Macintosh
  permission, limiting 49
  permissions 41
  system requirements 8
  Type/Creator 46
  viewing files being shared by 44
  viewing those connected 42
Mac OS X 8
  printing 63
Microsoft Cluster Servers 21
modifying a volume 40
moving jobs to print sooner 67
multiple virtual servers 21

N

naming ExtremeZ-IP and SFM 48
node table cache
  adjusting size 32

O

Operations Log 45, 72

P

password 39, 41
  allowing clients to save 33
  connecting 43
  length 8
  notify of expiration 34
permissions 41
  allowing changes 33
  Macintosh style 49
port settings 56
PPDs
  creating for Mac OS X users 76
printers 53, 67
printer description, creating
  57
printing over TCP/IP
  Mac OS 9 65
  Mac OS X 63
print accounting
  logging information 71
  setting up 73
  setting up PPDs for Mac OS X users 76
  using information 72
Print Queues dialog box 57, 58, 60
Print Queue Jobs dialog box 66
Print Queue Properties dialog box 57, 59
Print Server 53
  settings 55
Print Sever Connection Options 56
properties
  of shared files and folders 41

R

register server on networks 31, 55
registry keys, using 49
remote administration 33
  dialog box 29
removing
  ExtremeZ-IP 18
  jobs from a print queue 67
  print queues 65
  volumes 40
resuming job processing 66

S

Save As dialog box (log) 45
saving passwords 33
Search Settings dialog box 34
security for volumes 32
Security Settings dialog box 32
servers, multiple 21
Services for Macintosh 48
  avoiding conflicts with ExtremeZ-IP 48

warning about using on same machine 30
Service Location Protocol 8
settings
File Server 30
Print Server 55
Search 34
Security 32
setting up
printers 53
specified directories 53
shared files and folders 41
show or hide folders 50
Single Sign-On Support 19
size of cache 32
SLP options 56
Specified Directory 62
starting ExtremeZ-IP 27
Start File Services 28
stopping
a file from being viewed 44
a print job 66
ExtremeZ-IP 27
file services 28
Stop File Services 28
Support “Catalog Search” Operations 34
support 1 703 528-1555 9
suspending job processing 66, 67
system requirements 7

T

TCP/IP 30
technical support 9
troubleshooting 49, 53, 73
types and creators 46

U

Unicode character set 8
Users dialog box 42, 43
user name and password 43

V

validation codes
directions for Macintosh users 77
requiring for printing 53, 75
setting up 74
viewing
files being shared 44
jobs being processed 66
log of printing activities 71
log of server activities 45
Macintosh users 42
volumes
creating 37
deleting 40
modifying 40
protecting with password 39
sharing 37
Volumes dialog box 37

W

warning about password expiration 34
Windows Print Queues 60
Windows system requirements 7
Windows XP and 2003
configuring guest access 50